

5th International

Management Information Systems Conference

October 24-26, 2018 BTK Convention Center, Ankara, Turkey

The Book of Abstracts

Editor
H. Kemal İlter

2018

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Introduction

Organizational culture is a unique property of an academic field to create and boost scientific value for humanity. Our department* is established recently (2011) and we are willing to embed scientific best practices, and to create an efficient academic climate and culture in the Department of Management Information Systems specifically, in the research field of MIS generally.

With the Fifth International Management Information Systems Conference, we, as the organizing committee of the conference, try to contribute the development of MIS in Turkey with our humble efforts. If we have seen further it is by standing on the shoulders of giants.

In The Book of Abstracts of the IMISC 2018, reader can find the abstracts of papers submitted, reviewed, and presented in the conference by means of various topics, viewpoints, approaches, functions and actions with the MIS perspective.

For many people, IMISC 2018 may seemed to be just an effort for sharing scientific knowledge, create MIS-focused scientific network, give some opportunities for the tenure track, or a weird way that try to create an artificial social structure. However, such opinions will also be exist in the future regardless of efforts to create a knowledge-based society.

Please check the conference full papers which are published on conference website (http://2018.imisc.net) and figshare portal (http://imisc.figshare.com)

Best regards,

On behalf of the Organizing Committee
H. Kemal İlter, Ph.D.
Conference Chair

* Department of Management Information Systems, Business School, Ankara Yıldırım Beyazıt University, Ankara, Turkey.

Letter of Appreciation

Management information systems (MIS) as an academic discipline studies people, technology, organizations, and the relationships among them. As IMISC Series bring together main research groups working on the concept, along with many of the world's leading companies, it has become the important annual conference for the presentation and discussion of management information systems research.

The Fifth International Conference on Management Information Systems (IMISC 2018) is an international forum for the presentation of new research results, systems and techniques in the broad field of management information systems.

IMISC 2018, the fifth conference in this series which is affiliated by the TRAIS, is held in Convention Center of BTK by Ankara Yıldırım Beyazıt University, Ankara, Turkey. It brings together researchers and practitioners from academia and industry to present their latest results and identify new trends and challenges in providing information components in a range of innovative application contexts. In addition to the main track, IMISC 2018 program features keynote and invited talks, panels, tutorials, and workshops covering state-of-the-art in this domain. Published papers would have went through a rigorous full peer review process. The conference proceedings are currently available both on the figshare (https://imisc.figshare.com/) and on the conference website (http://2018.imisc.net/).

His efforts on the institutional support that *Prof. Dr. Metin Doğan*, the Rector of **Ankara Yıldırım Beyazıt University**, provided us would be greatly appreciated. Also we appreciate encouraging perspective of *Prof. Dr. Rafet Aktaş*, Dean of the **Business School**. We wish to thank Prof. Doğan for his invaluable guidance and Prof. Aktaş for his broad managerial vision.

We truly appreciate *Mr. Mustafa Daşdelen*'s kind invitation for hosting IMISC 2018 on behalf of the **Information and Communication Technologies Authority of Turkey** (BTK). We wish to thank Mr. Daşdelen for his valuable efforts during the preparation, *Ms. Gizem Karakaş* for her passionate support, and *Ms. Şadiye Nur Şahin* for her organizing diligence. Without them it would have been impossible.

We wish to thank members of the **Türksat Company** for broadcasting accentual events of the IMISC 2018 internationally, members of **figshare** for their efforts on the IMISC figshare portal to publish conference papers digitally, and members of the **Bilge SGT** for their support to publish the Book of Abstracts in-print.

We wish to extend our deep appreciation to all those who have so generously volunteered their time and talents during 2018 to the peer review of the Fifth International Management Information Systems Conference. Special thanks go to our *Track Chairs* who have shared their valuable time and high level expertise in managing papers and evaluating submissions through the peer review process.

Numerous professionals, both in academia and industry, volunteered their time and expertise as *peer reviewers* during 2018. These reviewers are critical to the peer review process and ensure that the IMISC 2018 publishes high quality and timely papers.

We also wish to thank *members of the IMISC Advisory Committee* for their valuable contributions to make the conference happen. And we wish to thank *Prof. Dr. Sevinç Gülseçen* (Chair of IMISC 2017), *Prof. Dr. Vahap Tecim* (Chair of IMISC 2016), *Prof. Dr. Üstün Özen* (Chair of IMISC 2015), and *Prof. Dr. Meltem Özturan* (Chair of IMISC 2014) for their valuable efforts to create such an MIS platform.

H. Kemal İlter, Ph.D.

Conference Chair,
Associate Professor at Department of Management Information Systems, Ankara Yıldırım Beyazıt University

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Track

General MIS Topics

Brief

Information systems concept and related technologies have been evolving in several directions over the past years. New types and kinds of data, new types of applications and information systems to support them raise diverse challenges to be addressed. The so-called big data challenge, streaming data management and processing, social networks and other complex data analysis, including semantic reasoning into information systems supporting for instance trading, negotiations, and bidding mechanisms are just some of the emerging research topics. We construe management information systems broadly, including applications ranging from ebusiness to ambient intelligence, and a wide variety of technologies ranging from edge computing to wearable computers.

Papers

1. Oto Galericilerinin Karar Alma Süreçleri
2. Yeşil Bilgi İşlem Bağlamında Kampüs Ağlarında Enerji Tüketiminin İzlenmesi
3. Using Soft Systems Methodology Approach to Improve Technical Solution Sub-process of Engineering Process in a SME: A Case Study
4. Comparing Bug Finding Tools for Java Open Source Software
5. Future Agenda of Blockchain Perceived By Three Important Communities: Academia, Enablers, Industry
6. ISO/IEC 27001 Bilgi Güvenliği Yönetim Sisteminin Kamu Kurumlarına Uygulanabilirliğinin İncelenmesi
7. ISO27001 Bilgi Güvenliği Yönetim Sisteminde Risk Analizi
8. Bakış Takibi İle E-Öğrenme Materyalinde Konu Odağı ve Öğrenci Bakış Reflekslerinin İlgisini Değerlendirme
9. Uzaktan Eğitimde Çevrimdışı Sertifika Programları İçin Sistem Tasarımı
10. Faturanın Kağıttan Elektroniğe Dönüşüm Süreci: Bir Gıda Sektörü Uygulaması

Decision Making Processes of Car Dealers*

Serhat Ömer Rençber[1,3] and Abdülkadir Özdemir[2]

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* Original language of this paper is *Turkish* and title is "Oto Galericilerinin Karar Alma Süreçleri."

Abstract

Decision is the last statement as a result of the process of taking decision. People interpret their opportunities during taking decision process. Internal and external factors play important role in this process. And people are influenced in this process by structure of company, culture of region, politic factors, structure of where he lives etc. In this article, studied on how people taking decision while buying or selling car from dealers. Study location is Van Sellers. Sample space is 40 Dealers in the city of Van. By using half structured interview technique from qualitative research methods.

Keywords

Decision making, Decision analysis, Selling and buying car.

Monitoring of Energy Consumption in Campus Networks in the Context of Green Computing*

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* Original language of this paper is *Turkish* and title is "Yeşil Bilgi İşlem Bağlamında Kampüs Ağlarında Enerji Tüketiminin İzlenmesi."

Abstract

In this work, energy consuming devices or consumption data of the whole system are recorded in a database using IoT products and made processable. Thus, desired analysis on the data will be possible. In addition, the current sensors used in the information infrastructure, relays and similar sensors can be recorded in the databases with the help of micro controllers like Arduino, WeMoS. With the help of this data recorded on the servers, energy consumption of an entire campus can be recorded, so that consumption trends can be displayed and studies can be carried out. Thus, after all consumption data has been digitized, stored and viewed, energy efficiency of network devices can be improved by creating dynamic policies based on daily, weekly regular energy usage policies or instantaneous data. The project can then be easily converted to the electricity consumption measurement hour, which can be read remotely.

Keywords

Decision making, Decision analysis, Selling and buying car.

Using Soft Systems Methodology Approach to Improve Technical Solution Sub-process of Engineering Process in a SME: A Case Study

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Abstract

Small and Medium-sized Enterprises (SMEs) from different business sectors, that are certified by some standardization organizations, are increasingly prioritizing the process improvement to raise their product's quality. This paper proposes a qualitative research that will consider the question 'how are the means of optimizing change in SME's engineering process certified by CMMI, identified and modeled consistently, using Soft Systems Methodology (SSM)?'. The author analyzed problematic cases related with technical sub-process, compared them with real world activities, modelled the potential changes and monitored the improvements for technical solution sub-process in accordance to case study. It is hoped that this research will inform future research for process improvement in any organizations by using SSM.

Keywords

Engineering design process, Process improvement, Soft systems methodology.

Comparing Bug Finding Tools for Java Open Source Software

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Abstract

Software's are getting bigger and more complex and it is very important to improve defect-detection techniques. Software failure may have very critical consequences like economic loss. Using bug finding tools can reduce time and cost of testing software's. The importance of software testing process has caused developing of many tools to find bugs automatically in program source code in recent years. In this paper, we perform a comparison between different Java open source bug-finding tools over a wide variety of tasks. For our study, we used three well-known open source bug-finding tools which are PMD, FindBugs and Checkstyle. We ran these tools on a variety of open source Java programs and compare the results. Our results show that each of the tools can find different kind of bugs and there is no perfect tool that can be used instead of the other tools.

Keywords

PMD, Checkstyle, FindBugs, Java, Software testing tools.

Future Agenda of Blockchain Perceived By Three Important Communities: Academia, Enablers, Industry

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Abstract

Blockchain is a decentralized data transaction enabled by evolving technologies since 2008. As it has drawn significant attention from many industries and academics recently and it is claimed to have strong disruptive potential. Especially for the last two years, there has been considerable increase in the number of research papers, use cases generated, pilot implementations and also platforms enabled by the technology providers. According to the industry research, by 2022 blockchain business will be worth $10 billion and the business value-add of blockchain will exceed $3.1 trillion by 2030 when it will be in its mature state. To reach its maturity efficiently and effectively, it is vital to design future agenda that addresses the tasks or expectations of three parties (industry, enablers, research) from a technological perspective. In this paper, comprehensive maturity model based future agenda will be presented.

Keywords

Blockchain, Challenges, Maturity model, Technology agenda, Disruptive technologies.

ISO/IEC 27001 Bilgi Güvenliği Yönetim Sisteminin Kamu Kurumlarına Uygulanabilirliğinin İncelenmesi

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Özet

Gelişen teknolojiler ile birlikte iletişim sistemlerinin yaygınlaşması ve kullanımının oranlarının her geçen gün artması sonucunda elektronik ortamlarda tutulan bilgilerin katlanarak artmasından dolayı bilgi güvenliğinin sağlanması ihtiyacı gerek kişisel gerekse kurumsal boyutta en üst seviyelere çıkmıştır. Bilgi güvenliğinin sağlanması amacıyla kurum ve kuruluşlar bünyesinde kendi iş süreçleri doğrultusunda hazırladıkları bir takım prosedürlerin uygulanabilirliğinin ve personel farkındalığının artırılması amacıyla bilgi güvenliği yönetim sistemleri kurulmuştur. Ülkemizde de özellikle bünyesinde değerli bilgi barındıran kamu ve özel sektör kuruluşlarında bilgi güvenliği yönetim sistemleri her geçen gün yaygınlaşmaya başlamıştır. Kamu Kurumlarında özelinde ise bilgi güvenliğinin sağlanması ve ISO 27001 standardına uyumlu hale getirilmesi, Ülkemiz siber eylem planı çalışmaları kapsamında zorunlu hale getirilmiş ve 2018 yılı sonuna kadar tüm kamu kurumlarına bilgi güvenliği yönetim sistemini kurulumlarını tamamlayarak ISO 27001 standardına uyumlu hale getirilmeleri talimatı verilmiştir. Bu çalışmada, ISO 27001 belgesi sahibi olan bir kamu kurumunun yönetim ve personel açısından incelenmesi sonuçlarına yer verilmiştir.

Anahtar kelimeler

ISO 27001, BGYS, Bilgi güvenliği.

Turkish

Risk Analysis in ISO27001 Information Security Management System

İsmail Durankaya[1], Yılmaz Gökşen[1], and Mete Eminağaoğlu[1,2]

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Abstract

Security risks related to information and information technologies have increased in parallel with technological progress, and knowledge has become the most important asset today. During the processing, transmission and storage of the knowledge, protecting its confidentiality, integrity and availability has also evolved as an important issue. In this study, the risks faced by the information assets of the organization, the processes affected by the risks and the internal and external parties related to them, assets and locations, the probability of risks, the value of assets, the probability of threats are defined and a software prototype is designed and developed in order to manage the risks and the relevant controls. In order to achieve a proper information security management system (ISMS) for the organization, the most important factors have been considered. A risk methodology is designed, implemented, documented and risk analysis is conducted by using these documents.

Keywords

Information security, Risk analysis, Risk methodology, ISO27001, Risk management software.

Bakış Takibi İle E-Öğrenme Materyalinde Konu Odağı ve Öğrenci Bakış Reflekslerinin İlgisini Değerlendirme

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Özet

Öğrenme süreçlerinin önemli belirleyenlerinin başında; öğrenenin bu sürece verdiği doğal tepkiler yer almaktadır. Bu tepkileri değerlendirmeden tasarlanacak uzaktan öğretim teknolojileri, öğrenciye yönelik bir dayatma olarak görülebilir. Bir insan olarak öğrenen tarafındaki öğrencinin doğal refleksleri, öğretim sürecinin başarımı hakkında önemli ipuçları veren, başlı başına genel amaçlı bir dildir (general purpose language). Bu dilin özellikle e-öğrenme süreçlerine dâhil edilmesi gerekmektedir. Gelişen teknoloji ile birlikte insanın bu doğal reflekslerini tespit ve ölçme imkânları artmaktadır. İnsan bakış odağının, günümüz bilgisayarlarının standart donanımı haline gelmiş basit bir web kamerası ile takibi (eye gazing tracking) konusundaki çalışmalar, bu konunun e-öğrenme süreçlerinde öğrenci reflekslerini anında değerlendirebilme olasılığı, çalışmanın temel motivasyon noktasıdır. Bu çalışma, yakın geçmişe kadar ancak laboratuvar ortamlarında ölçülebilen bazı doğal insan reflekslerinin günümüzde sıradan bir bilgisayar sistemiyle de gerçekleştirilebileceğine bir örnek sunmayı amaçlamaktadır.

Anahtar kelimeler

Bakış takibi, İBE-İnsan-Bilgisayar etkileşimi, E-öğrenme.

Turkish

System Design for Offline Certificate Programs in Distance Education*

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* Original language of this paper is *Turkish* and title is "Uzaktan Eğitimde Çevrimdışı Sertifika Programları İçin Sistem Tasarımı."

Abstract

Distance education is an educational approach that is now preferred by individuals, organizations and organizations and that goes into people's lives. Distance education has been widely used in society with the need to reduce the need for human power, to be economical and accessible, to provide education to a wide range of people and to be easily integrated with information systems, and some solutions have been produced with distance education for problems. In this study, the offline certificate program in the distance education system was designed and developed. In the study, Design Science Research approach used to design and design process of offline certificate program in distance education system is systematically described. As a result of the study, suggestions about the design process of offline distance education certificate programs are presented and the results of the study are discussed.

Keywords

Distance education, Offline, Certificate program, System design.

Innovation which has been Released from Companies in E-Invoice: An Application

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* Original language of this paper is *Turkish* and title is "Faturanın Kağıttan Elektroniğe Dönüşüm Süreci: Bir Gıda Sektörü Uygulaması."

Abstract

Along with the development of information systems, the widespread use of the internet has brought about changes in daily life operations. The invoice, which documents the sales transaction between the supplier and the buyer, has been moved to digital medium and the concept called "e-invoice" has emerged. This system, which is organized by The Presidency of Revenue Administration and stipulated for specific firms, enables the invoices to be transferred between the parties without use of paper. It is possible to tell that there are two main reasons for the e-billing system. First, a central control system can be created and the controls can be made in a diagonal manner, where the different sides are treated together in different dimensions. Secondly, transforming to the e-invoice system saves paper in proportion to the size of the firm. In this study, the e-invoice system has handled with in terms of a company serving in the good sector. The system is presented in terms of different angles, contributions that it has achieved and difficulties it presents.

Keywords

E-Invoice, Electronic document, Workflow.

Track

Artificial Intelligence and Business Applications

Track Chair

Prof. Dr. Haldun Akpınar
Marmara University, Turkey

Bio

Prof. Dr. Haldun Akpınar has punched his first punched card in 1979 and he has developed his first professional software in 1981. He has been working in Information and Communication Technologies as a software developer, a system analyst, a consultant and a project manager as well as an educator for almost 40 years. He has directed the head of the Department of Business Informatics (in German) at Marmara University from 2003 to 2014.

He has also worked at the University of Illinois (U.S.A.), at Beckman Institute between 1991 and 1992, at the International Tokyo University (Japan) in 1993, at the Jönköping University (Sweden) in 1997, at the University of Otago (New Zealand) in 2000 and at many Universities in Germany until today. He has published 12 books in Turkish and German, and numerous research papers and articles.

Brief

In recent years, after many false starts in the last century, Artificial Intelligence (AI) has been sweeping into all areas of our life and opening up new frontiers in business environment. The impacts of AI are seen on every layer of many research areas or applications under the title "Advanced Analytics and Intelligent Processes".

The primary aim of this track is to provide a platform to share, present and discuss recent advancements in AI for the business world.

The selected main subject of this track is the entwining of AI, Internet of Things (IoT) or particularly Industrial Internet of Things (IIoT), cloud computing and advanced analytics.

Papers

1. E-Ticaret Sitelerinde Müşteri Sadakatini Artırmaya Yönelik Veri Merkezli Oyunlaştırma Modelinin Oluşturulması
2. İş Analitiğinin İşletmelerdeki Kısa ve Orta Vadede Karar Verme Mekanizmasına Olan Etkisinin Araştırılması
3. Towards a Development Framework for Intelligent Digital Mesh: Extension of Software Product Line Engineering
4. Bitcoin'in Türkiye Piyasasındaki Değerinin Yapay Zeka Teknikleri ile Tahmini

Creating a Data-Centered Gamification Model for Increasing Customer Loyalty on E-Commerce Sites*

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[2] Corresponding author, canaydinn@gmail.com
* Original language of this paper is *Turkish* and title is "E-Ticaret Sitelerinde Müşteri Sadakatini Artırmaya Yönelik Veri Merkezli Oyunlaştırma Modelinin Oluşturulması."

Abstract

Customer loyalty on e-commerce web sites is vital for attaining sustainable competitive advantage. It is essential to get to know customers, to know on which emotions and drives they act, and to design accordingly. This study looks at customer loyalty in both behavioral and attitudinal frames and provides a gamification model for increasing customer loyalty on e-commerce web sites. In this research, firstly 12 e-commerce web sites were examined and foundational customer behaviours were designated. Then, a survey was applied to understand how much customer behaviours were motivated by the 8 drives that are given in Octalysis Framework. Finally, the results were transformed in to a software (SAAS) as a service to the model.

Keywords

Customer loyalty, E-commerce, Real time customization, Gamification.

Investigation of the Effect of Business Analysis on the Decision Making Mechanism of Short and Medium Term in the Business*

Murat Kılınç[1,2] and Can Aydın[1,2]

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* Original language of this paper is *Turkish* and title is "İş Analitiğinin İşletmelerdeki Kısa ve Orta Vadede Karar Verme Mekanizmasına Olan Etkisinin Araştırılması."

Abstract

The convenience of the Internet and technology has greatly facilitated the business tactics of businesses that serve many areas today. The ability of businesses to keep pace with the era of internet and information technology is moving in a direct proportion to the success of businesses. When taken in this regard, businesses need to keep up with these developments and make sense of their own. It is of great importance that the existing data in the business are examined within the scope of job analysis and become a strategy and a strategy. In this direction, a web-based application called "Pilot" has been developed, in which the SaaS model dominates in order to better understand the business analyst's influence on businesses. The application is designed to be used for non-structural and structural decisions for future planning.

Keywords

Business analytics, Decision support system, Management information systems, Dynamic data analysis.

Towards a Development Framework for Intelligent Digital Mesh: Extension of Software Product Line Engineering

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Abstract

Technological breakthroughs have not only changed the way of our working, perceiving and interacting, but also increased the potential for changing our digital and physical worlds. At the time of this paper is written, a recent technical report has presented the state of art of top ten technology trends called as Intelligent Digital Mesh (IDM). While it reports important technical and strategical information, it is seen that various sources of variability and complexity inherit in the IDM environments. One of them is the IDM-oriented application development. Except for some limited prescriptions and strategies, the review of literature on IDM cannot provide a comprehensive framework as a solution. Thus, the main argument of this study is that IDM needs an application development framework providing platform-based, component-based, reusable functionalities, and allowing mass customization.

Keywords

Intelligent digital mesh, Application development, Software product line engineering.

Estimation of Bitcoin Market Value in Turkey Using Artificial Intelligence Techniques*

Furkan Aslan[1, 2], İhsan Pençe[1], Melike Şişeci Çeşmeli[1], and Adnan Kalkan[1]

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* Original language of this paper is *Turkish* and title is "Bitcoin'in Türkiye Piyasasındaki Değerinin Yapay Zeka Teknikleri ile Tahmini."

Abstract

Crypto money is the currency that is created by the development of internet technology and the use of e-commerce, secured by cryptographic systems, is not connected to a certain authority, and is used all over the world. The crypto parcels, which have recently become quite popular, have begun to direct the financial sector. In this study, estimation of Bitcoin market value that has seen as the most popular crypto-currency, in Turkey using artificial intelligence techniques has been carried out. Successful results have shown that artificial intelligence can be used in the financial sector and can help in assessing user investments.

Keywords

Crypto currency, Bitcoin, Artificial intelligence, ANFIS, Curve fitting.

Track

Big Data and Data Analytics

Track Chair

Assoc. Prof. Dr. Abdülkadir Hızıroğlu
İzmir Bakırçay University, Turkey

Bio

Assoc. Prof. Dr. Abdülkadir Hızıroğlu has been in academia since 2001. He worked in different departments including Informatics Department & Distance Education Centre, Industrial Engineering, Management Information Systems and Business Administration Departments. He received BEng and MSc degrees from Sakarya University and he then pursued his PhD degree at Manchester Business School, United Kingdom. Currently, he is a faculty of member of Management Information Systems Department at Izmir Bakırçay University and also working as Secretary General of the University. He has several research interests such as soft computing/data mining applications in business & management, business intelligence & customer analytics, & e-learning.

Brief

The concept of big data and analytics in different application domains have been of significant importance in the last decade. Big Data and Data Analytics track aims to contribute to the area in a multidisciplinary context covering the research perspectives including conceptual and methodological, technological, managerial and economic, as well as application domains.

Towards this aim, topics from both operational and managerial aspects of analytics and big data are covered. From the operational aspect problems, issues, and challenges as well as pertaining technological solutions/models for the topics such as data crawling, data diversity and volume, data quality, data privacy and security, data preprocessing and mining of data; from the managerial aspect considerations including cost, investment, value, impact, implementation and innovation are encouraged to apply to the track.

Papers

1. Multi-layered Open Data Processing Model for Hazelnut Farms
2. Managing Big Data: A Research on Adoption Issues
3. Effects of Liberalization on Electricity Prices: Empirical Analysis of Turkey Electricity Market After Reforms
4. A Comparison Between Right to Data Portability and United Kingdom's *midata* Initiative
5. Dijital Bağımlılık ile Mücadelede Sosyal Bilişimin Rolü
6. Büyük Veri Çağında İşletmelerde Veri Bilimi
7. Using Web Meta-data to Discover Patterns of User Behaviour
8. An Illustrated Example of DEMATEL within the Context of Analytics

Multi-layered Open Data Processing Model for Hazelnut Farms*

Şahin Aydın[1,3] and Mehmet Nafiz Aydın[2]

[1] İstanbul Ayvansaray University
[2] Kadir Has University
[3] Corresponding author, aydinoglu.sahin@gmail.com
* Original language of this paper is *Turkish* and title is "Fındık Tarlaları İçin Çok Katmanlı Açık Veri İşleme Modeli."

Abstract

In recent years several projects that are supported by information and communications technologies (ICT) have been developed in the agricultural domain to promote more precise agricultural activities. These projects account for different kinds of key ICT terms such as internet of things (IoT), wireless sensors networks (WSN), cloud computing (CC). These projects are realized for different agricultural products and it is a well-known fact that they can be essential to perform precise agricultural activities for the relevant agricultural products. It is important to emphasize that the success of implementing these projects depends on the extent to which various stakeholders are supported by leveraging relevant data, which are gathered from different kinds of data sources. Agriculture domain is of interest to various stakeholders. These stakeholders need sophisticated data and appropriate intelligence for getting benefits to performing precise agricultural activities.

Keywords

Open data, Multi-layered open data processing model, Open data processing model for hazelnut.

Managing Big Data: A Research on Adoption Issues

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Abstract

The adoption of big data presents significant challenges for managers and organizations, which has precipitated increased research on the effective utilization of big data. In order to successfully adopt big data, the organization must ensure its managers are on board with the changes because the support of the managerial staff of the organization can be associated with the adoption of new technology. The purpose of this quantitative study, thus, was to investigate factors related to the use of big data by managers and decision-makers whose organizations have adopted, or are considering adopting, big data. The results of this study showed that the three constructs of perceived ease of use, perceived usefulness, and attitude toward use had a strong correlation to actual use and the behavioral intention to use big data.

Keywords

Big data, TAM, Behavioral intention, Quantitative research.

Effects of Liberalization on Electricity Prices: Empirical Analysis of Turkey Electricity Market After Reforms

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Abstract

Forecasting electricity demand is very important for all producers and distributors. Liberalization trends affect electricity markets and reforms encourage new firms to enter the markets. This causes to rapid technological improvement and increase renewable energy resources usage to produce electricity. However, using renewable energy resources can cause to an increase in unplanned electricity production and this directly affected electricity prices. In this study, we analyzed a relation between electricity price with consumption, renewable energy capacity and failure. We found that the effect of hourly failure on price is not clearly observed because it is very limited when we consider long horizon. We use artificial neural network and check R values to see how price change can be explained with those inputs. Also, we applied clustering technique to hourly failure and see that there is a relation between failure and price on specific days.

Keywords

Liberalization, Electricity Consumption, ANN, Clustering.

A Review of Right to Data Portability's Elements

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Abstract

European Union's General Data Protection Regulation (GDPR) provides individuals with new rights one of which is "Right to data portability" (RTDP). Right to data portability has been further explained with relevant European data protection bodies' guidelines (European Data Protection Board, Article 29 Working Party, Information Commissioner's Office). While technical challenges with right to data portability have been brought forward in various studies, specific requirements stated under these guidelines are not adequately articulated. In this paper by using open coding we explain the elements of the right to data portability found in these guidelines and reveal the long list of necessities for compliance regarding right to data portability such as time element of informing users/data subjects, distribution of roles for data minimization, availability of information to users/data subjects while closing accounts, data receival and direct transfer availability. We believe that our findings can be used to evaluate compatibility of any claim regarding providing data portability in compliance with RTDP under GDPR.

Keywords

General data protection regulation, Right to data portability, data protection, privacy, midata.

The Role of Social Informatics in the Fight against Digital Addiction*

Esra Kahya Özyirmidokuz[1,2] and Betül Akpınar Karakaş[1]

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* Original language of this paper is *Turkish* and title is "Dijital Bağımlılık ile Mücadelede Sosyal Bilişimin Rolü."

Abstract

Digital addiction, a danger that software system users on the social networks have faced in recent years, is something that should be directed by system designers and administrators. In order to control this danger and thus to change the user behaviors, it is necessary to update the system by analyzing the feedback of the users in real time. The aim of this research is to discover the role and effect of social informatics to combat with digital addiction. Daily research has been conducted to understand the role and effect of social computing in combating digital addiction. User feedback was collected, analyzed and categorized. The results obtained will be used in the planning of software notifications designed with the intention to combat DI in social adaptation.

Keywords

Digital addiction, Social informatics, Software quality, Requirements engineering, Persuasive technology.

Büyük Veri Çağında İşletmelerde Veri Bilimi

Mert Onuralp Gökalp[1,2], Kerem Kayabay[1], Selin Çoban[1], Yücelen Bahadır Yandık[1], and P. Erhan Eren[1]

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Özet

İçinde bulunduğumuz büyük veri çağında bilgi teknolojisi servislerinden ve nesnelerin interneti kaynaklarından üretilen veri miktarındaki üstel artış ile birlikte şirketlerin veriden elde edebileceği fayda da her geçen gün hızla artmaktadır. Ancak bu mevcut verileri etkin şekilde kullanmak, stratejik üstünlük elde etmek ve kendi iş süreçlerini iyileştirmek isteyen kuruluşların büyük veri ve veri biliminden elde edebilecekleri faydaları doğru tanımlamaları ve şirketlerini bu doğrultuda veri odaklı yönetime hazır hale getirmeleri gerekmektedir. Bu nedenle, bu çalışma kapsamında, büyük veri ve veri biliminin tanımı, mevcut durumu ve işletmelerin büyük veri çağında veri bilimini iş süreçlerine dahil ederken karşılaşacakları zorluklar incelenmiştir.

Anahtar kelimeler

Büyük veri, Veri bilimi, Veri analitiği.

Turkish

Using Web Meta-data to Discover Patterns of User Behaviour

Esra Kahya Özyirmidokuz[1,2] and Betül Akpınar Karakaş[1]

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[*] Original language of this paper is *Turkish* and title is "Dijital Bağımlılık ile Mücadelede Sosyal Bilişimin Rolü."

Abstract

Digital addiction, a danger that software system users on the social networks have faced in recent years, is something that should be directed by system designers and administrators. In order to control this danger and thus to change the user behaviors, it is necessary to update the system by analyzing the feedback of the users in real time. The aim of this research is to discover the role and effect of social informatics to combat with digital addiction. Daily research has been conducted to understand the role and effect of social computing in combating digital addiction. User feedback was collected, analyzed and categorized. The results obtained will be used in the planning of software notifications designed with the intention to combat DI in social adaptation.

Keywords

Digital addiction, Social informatics, Software quality, Requirements engineering, Persuasive technology.

An Illustrated Example of DEMATEL within the Context of Analytics

Keziban Seçkin Codal[1,3], Talha Musab Akpınar[1], and Kadir Hızıroğlu[2]

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Abstract

To deal with considerable number of parameters in an optimal solution, determining the impact-relations map and analyzing casual influences work out complex problems in decision-making process. The aim of this study is to find out which of the many meaningful parameters revealed in the aviation sector, is influential. The concept of descriptive and prescriptive analytics is introduced in civil aviation sector. The secondary data was taken from one flag carrier airlines. In addition, interviews were conducted with 10 different experts to compare the interaction between 8 different attributes. The interviews were structured around the DEMATEL Model. Descriptive analytics results have set a precedent implication of multidimensional reports for service sector. Decision making with the variety of combinations of multidimensional reports has a complex nature. Thanks to prescriptive analytics, displayed results supported by DEMATEL. The results of the study will be supportive for strategic levels of decision making for all service sectors, especially for civil aviation.

Keywords

Business analytics, Prescriptive analysis, DEMATEL.

Track

Data Mining and Machine/Deep Learning

Track Chair

Prof. Dr. Hasan Dağ
Kadir Has University, Turkey

Bio

Prof. Dr. Hasan Dağ obtained his bachelor degree in electrical engineering from Istanbul Technical University, Istanbul, Turkey and obtained both his master and PhD degrees both in University of Wisconsin-Madison in electrical and Computer Engineering. His area of interest in general is computational science, data science and smart grid. His recent research areas are Data Science, Big Data, Cyber Security, and their application to Smart Grid. He holds the directorate position of research resources, while at the same time holding the position of the head of Management Information System at Kadir Has University, Istanbul, Turkey. He has also been appointed the directorate position of Research Center for Cyber Security and Critical Infrastructures.

Brief

Data science expresses that previous data processing applications are not sufficient to process larger and more complex data sets. The relatively recent concepts of data mining, machine learning, and deep learning offer a new set of techniques and methods. Today, researchers and companies are dealing with and experimenting with various methods of deriving value, such as machine learning, data mining, artificial intelligence, and deep learning. Data Mining and Machine / Deep Learning track aims to contribute to fields that are related to analytics of data that based on different data types. New approaches, applications, models or methods related to the topic of this track.

Papers

1. Evaluation of Call Center Efficiency Using Text Mining Approach
2. Veri Madenciliği Üzerine Endüstriyel Bir Durum Çalışması
3. Balıkçılık Endüstrisinde Kullanılan Büyüme Modellerinde Geleneksel Yaklaşımlar ile Yapay Sinir Ağlarının Yaklaşımlarının Karşılaştırılması
4. Integration of the Google Analytics tool into the data pre-processing layer for WEB Usage Mining: A case study
5. Siğil Tedavisinde Kullanılan Immunotherapy Yönteminin Uygunluğunun Bayes Yöntemi ile Tespiti
6. Predicting Diffusion Reach Probabilities via Representation Learning on Social Networks
7. Finding a Model that Provides High Profits with Web Usage Mining: A Case Study
8. Derin Öğrenme ile Görüntü Kümeleme
9. K-Means vs. Fuzzy C-Means: A Comparative Analysis of Two Popular Clustering Techniques on the Featured Mobile Applications Benchmark
10. A New Approach to Development of Recommendation Systems with Opinion Mining on Turkish User Reviews

Evaluation of Call Center Efficiency Using Text Mining Approach

Eda Üzüm[1,2], Seren Başaran[1], and Sona Mardikyan[1]

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Abstract

In many business fields text mining methodologies are applied to analyze market, products, trends, quality, etc. Today, customer call center data are very valuable to understand customer needs and complaints, increase effectiveness and efficiency in technical services and customer loyalty, improve product quality and brand images. This study presents an application of text mining methods for customer call centers in a home appliance company. The dataset is provided by a home appliance company and includes 35 different country call center data. Random Forest and CART algorithms are applied to the recorded text which customers say directly to agents. According to the results, products' error causing parts are determined with a range of 49%-59% accuracy rate for different countries. The most used words prepared as a table and presented as a recommendation for a home appliance companies. As a result, this study identifies root cause of problems of call centers and how agents can deal with them to provide better services.

Keywords

Call center efficiency; Call center data; Text mining; Random forest; CART.

An Industrial Case Study on Data Mining*

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* Original language of this paper is *Turkish* and title is "Veri Madenciliği Üzerine Endüstriyel Bir Durum Çalışması."

Abstract

Nowadays, companies are looking for solutions to eliminate stops in production and maintain their sustainability in the market. In order to increase productivity, all production processes must be non- stop. To attain this goal, it is imperative to convert the industrial machine data into information. In this study, data mining algorithms which analyze the information obtained from cold forging machines are studied. According to the results, it is thought that this work can be a promising method in reducing the number of working stops in cold forging machines.

Keywords

Data mining, Industrial systems, Predictive maintenance, Cold forging machines, Error estimation.

Comparison of Approaches of Artificial Neural Networks and Traditional Approaches in Growth Models Used in Fisheries Industry*

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* Original language of this paper is *Turkish* and title is "Balıkçılık Endüstrisinde Kullanılan Büyüme Modellerinde Geleneksel Yaklaşımlar ile Yapay Sinir Ağlarının Yaklaşımlarının Karşılaştırılması."

Abstract

In this study, traditional approaches (length-weight relationships-LWR) and artificial neural networks (ANNs) approaches are examined in the growth models used in the fisheries industry. In our study, we used ANNs model instead of the traditional statistical growth estimation techniques used in the fisheries industry to determine how to obtain results. The data obtained with conventional growth models are compared with the data obtained with artificial neural networks. Data samples were collected from Mogan Lake. During the study, 571 fish (Atherina boyeri) were caught in 2016. Artificial Neural Networks have been shown to be an option in assessing growth characteristics. Findings of this study are important in determining the correct estimates in fisheries management and in evaluating the growth characteristics.

Keywords

Growth Models, Fish, Artificial Neural Networks, Traditional methods.

Integration of the Google Analytics tool into the data pre-processing layer for WEB Usage Mining: A case study

Şükrü Can Şayan[1] and Tahsin Çetinyokuş[1,2]

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* Original language of this paper is *Turkish* and title is "Balıkçılık Endüstrisinde Kullanılan Büyüme Modellerinde Geleneksel Yaklaşımlar ile Yapay Sinir Ağlarının Yaklaşımlarının Karşılaştırılması."

Abstract

The web has to grow, interpret and analyze with each passing day. This has led to the emergence of the field of web usage mining. The methods, developed in this area, are trying to pre-process and analyze the server log files. Instead of this method, this study proposes Google Analytics integrated model for obtain data and develops an application that accelerates this process. The comparative results of the methods are included in the study.

Keywords

Growth Models, Fish, Artificial Neural Networks, Traditional methods.

Determination of the Suitability of Immunotherapy Method Used in the Wart Treatment Using Bayes Method*

Sümeyye Çelik[1,2], Melike Şişeci Çeşmeli[1], İhsan Pençe[1], and Adnan Kalkan[1]

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* Original language of this paper is *Turkish* and title is "Siğil Tedavisinde Kullanılan Immunotherapy Yönteminin Uygunluğunun Bayes Yöntemi ile Tespiti."

Abstract

Wart disease is a common occurrence in medicine. According to their characteristics, treatment with several different methods is possible. When the treatment method to be applied is selected, the method which is deemed most appropriate is selected according to the features accepted in the literature. In this study, according to the characteristics determined in the literature, a preliminary evaluation was made with the data mining methods on the immunotherapy method applied to the patient and the evaluation success rate was increased. This will help the doctor to decide whether to choose the immunotherapy method when choosing a treatment method. Various methods have been tested on data sets in order to increase the success rate. According to the observed results, the highest success rate was 85.55% in bayes net classification. The data set used in the study is the results of a scientific research conducted in the dermatology clinic of the Iranian Ghaem Hospital, published in the UCI machine learning repository. The Bayesian net algorithm was implemented using the Waikato Environment for Knowledge Analysis (WEKA).

Keywords

Wart treatment, Bayes net, Immunotherapy, Data mining.

Predicting Diffusion Reach Probabilities via Representation Learning on Social Networks

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Abstract

Diffusion reach probability between two nodes on a network is defined as the probability of a cascade originating from one node reaching to another node. An infinite number of cascades would enable calculation of true diffusion reach probabilities between any two nodes. However, there exists only a finite number of cascades and one usually has access only to a small portion of all available cascades. In this work, we addressed the problem of estimating diffusion reach probabilities given only a limited number of cascades and partial information about underlying network structure. Our proposed strategy employs node representation learning to generate and feed node embeddings into machine learning algorithms to create models that predict diffusion reach probabilities. We provide experimental analysis using synthetically generated cascades on two real-world social networks. Results show that proposed method is superior to using values calculated from available cascades when the portion of cascades is small.

Keywords

Social networks, Information diffusion, Representation learning, Influence maximization.

Finding a Model that Provides High Profits with Web Usage Mining: A Case Study

Şükrü Can Şayan[1] and Tahsin Çetinyokuş[1,2]

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Abstract

As the methods of data collection and analysis evolve, they are developed in ways that can transform this data into intended results. For this purpose, it is necessary to draw a road map of the work to be done with planning and to reach the aimed result. In this study, a plan was made for the selected web site and the results were gathered within this plan and a result that can give an idea about the changes needed to reach the goals by using the appropriate models together.

Keywords

Web usage mining, Pre-processing, Decision trees, K-means, Feature selection.

Image Clustering by Deep Learning*

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* Original language of this paper is *Turkish* and title is "Derin Öğrenme ile Görüntü Kümeleme."

Abstract

The digital data we obtain is not always in the form of a table. The data may be composed of video and audio recordings, plain texts and pictures. Data is converted to perform data mining operations on data in different forms. Successful results are obtained in recognition, classification and clustering of images using machine learning methods. For this, a large number of object images should be given to the computer and learning should be provided. Thus, the computer will begin to establish its own cognition. This is called supervised learning and requires a lot of data. Today, a large number of images have been uploaded to cloud-based systems for sharing or storage. In this study, deep learning method was used for the clustering of the available images. Technically, the image is sent to Google servers and passed through a deep neural network earlier trained here. In deep learning, artificial neural networks are used and give excellent results in terms of accurate results in image aggregation. Image recognition by artificial neural networks mimicking the working principle of human brain, image classification and clustering can be done easily with computer.

Keywords

Deep learning, Image clustering.

K-Means vs. Fuzzy C-Means: A Comparative Analysis of Two Popular Clustering Techniques on the Featured Mobile Applications Benchmark

Tuğrul Cabir Hakyemez[1,3], Aysun Bozanta[2], and Mustafa Coşkun[2]

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[2] Boğaziçi University
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Abstract

Over the past few years, mobile applications have become an indispensable part of our daily lives. Noticing this ever-growing market, all those who are engaged in developing attractive applications should make informed decisions along the development process through sophisticated methods in order to survive in the market. As one of these methods, clustering is well suited for identifying the hidden groups existing in huge datasets. In this paper, the Mobile App dataset that contains features of 7196 available applications was clustered using two popular clustering algorithms, namely as k-means and fuzzy-c means. After conducting necessary preprocessing steps (e.g. outlier removal, standardization), these algorithms were run with different parameters in an experimental manner to reach optimal values and their performances were compared based on cluster quality (internal validity), number of iterations and elapsed time. The main findings suggested that fuzzy c- means produced higher quality clusters whereas k-means algorithm converged faster than its counterpart. In the last section, conclusions were made and future studies were discussed.

Keywords

Mobile application, Application mining, Clustering, Fuzzy c-means.

A New Approach to Development of Recommendation Systems with Opinion Mining on Turkish User Reviews

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[1] Kadir Has University
[2] Corresponding author, tayfunykaya@gmail.com

Abstract

People are starting to use Internet more often in their daily lives; they prefer to do more online shopping for their needs. However, e-commerce companies use a variety of recommendation systems to increase product sales. Current recommendation systems are often based on the user's personal information and online behavior. The most commonly used algorithm in recommendation systems is collaborative filtering. However, despite its wide range of applications, the prediction accuracy of this algorithm is not enough. It can also be questioned whether quantitative data such as product grading or purchasing history reflects users' true taste. For these reasons, Opinion mining is appeared as a new approach to the development of recommendation systems. In this article we propose a model to analyze Turkish user reviews that can be found a large amount on the internet, based on opinion mining. This model will contribute to the development of recommendation systems.

Keywords

Recommendation systems, Opinion mining, User reviews.

Track

Decision Support Systems

Track Chair

Assoc. Prof. Dr. Ersin Karaman
Atatürk University, Turkey

Bio

Assoc. Prof. Dr. Karaman is an associate professor at Management Information Systems Department, Atatürk University, Erzurum, Turkey. His research fields are Decision Support Systems, Business Analytics, Human-Computer Interaction and Business Intelligence.

Brief

Effective decision making is the most important issue in businesses. Therefore, decision maker tries to consider all factors that may affect their decisions. However, this is impossible because of the cognitive limits of human beings. Also, decision makers need to have ability for the conflict resolution, to reduce risk, to manage multi-partnership, to handle successive decisions and so on. As a result, decision support systems (DSS) concept has come into use. The term is used both as a research discipline and as information systems type.

As a research field DSS is defined as a "conceptual framework for a process of supporting managerial decision making, usually by modelling problems and employing quantitative models for solution analysis". On the other hand, information systems at the organization's management level that combine the data and sophisticated analytical models or data analysis tools to support semi-structured and unstructured decision making is called DSS. In this track, we plan to evaluate decision support systems from both perspectives.

Papers

1. Web 3.0 in Decision Support Systems
2. RTM: Interactive estimation tool for modeling real-time wind speed
3. Analitik Hiyerarşi Prosesi Kullanarak Kripto Para Seçimindeki Faktörlerin Belirlenmesi Üzerine Bir Uygulama
4. Topsis, Moora ve Copras Tekniklerine Dayalı Etkin Sunucu Yönlendirme Sistemi: Mobil Uygulama
5. İnteraktif Memnuniyet Değerlendirme Sistemi Mobil Kampüs
6. Transforming a Truly Traditional Dairy Product Company's Logistics and Transportation Related Decision Making Processes
7. Karar Verme Yöntemleri ARAS ve TOPSIS ile Besin Tercihlerine Yönelik WEB Tabanlı Uygulama

Web 3.0 in Decision Support Systems

Ahmet Doğan[1,4], İsmail Söylemez[2], Uğur Özcan[3], and Selçuk Kürşat İşleyen[3]

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[3] Gazi University
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Abstract

This study presents the relationship between current technologies- Web 1.0, 2.0 and third generation of the web which is Web 3.0. Web 3.0 is the last evolution of web that requires Web 2.0 technologies, semantic web and artificial intelligence. The Web 3.0 technology is a system that includes Web 2.0 technologies (that provides rich content and interaction between users), semantic web technologies (which try to understand and interpret of the data) and basic artificial intelligence (which provides ability of thinking to the machines like a human being). Web 3.0 technologies are expected to be implemented in education, search engines and decision making processes in the near future. Machines can contact both with people or machines in Web 3.0.Web 3.0 in Decision Support Systems that is new developing web technologies help the decision maker for decision making process.

Keywords

Decision support systems, Web technology, Web 3.0.

RTM: Interactive estimation tool for modeling real-time wind speed

Volkan Soner Özsoy[1,2], H. Hasan Örkcü[1], and Hasan Bal[1]

[1] Gazi University
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Abstract

Renewable energy sources have been become important in the whole world along with the rapid depletion of energy resources. Potential of the wind energy, one of the most important renewable energy sources, in any region can be estimated using the statistical methods. For modelling, various distributions were used the wind speed data in the related modelling literature. Moreover, in the literature, fitting these distributions was performed via static data. Distributions must be dynamically adapted as the wind speed changes over time. The Real- Time Modelling (RTM) tool is proposed to determine the most appropriate distribution of real-time wind speed in this study. The developed RTM tool for modelling real-time wind speed model can determine the best distribution according to some evaluation criteria. This study show that the developed RTM tool work effectively and efficiently in the real-time wind speed data.

Keywords

Modelling, Real-time, Wind speed.

An Application on a Research About to Determine Some Factors of the Choises Criptomoneys by Using Analitical Hierarchical Process*

Umut Can Genç[1], Doruk Ayberkin[2,3], Ersin Karaman[1], and Üstün Özen[1]

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* Original language of this paper is *Turkish* and title is "Analitik Hiyerarşi Prosesi Kullanarak Kripto Para Seçimindeki Faktörlerin Belirlenmesi Üzerine Bir Uygulama."

Abstract

The success of crypto money has still been away from reality. Many people have thought that crypto money is a tulip mania or it is a technology development like the internet. Some alternatives of bitcoin have appeared since 2011 and new ones are added every day. Bitcoin alternatives has been known as altcoin, are commen names is given to all other crypto currencies except bitcoin. In this study, it is aimed to evaluate the market capitalization from the crypto parcels whose numbers are over 1,500 by using the Analytical Hierarchy Process according to the determined criteria by selecting the top ten cryptomoneys.

Keywords

Cryptocurrency, Bitcoin, Analytic hierarchy process.

Topsis, Moora ve Copras Tekniklerine Dayalı Etkin Sunucu Yönlendirme Sistemi: Mobil Uygulama

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Abstract

Bu çalışma, öğrencilerin sınavlar gibi anlık olarak birçok kullanıcının istemde bulunduğu zamanlarda, sunucu içerisindeki yoğunluğu optimize etmek üzerine gerçekleştirilmiştir. Linux tabanlı fiziksel bir sunucu içerisinde 4 adet sanal sunucu oluşturulmuş ve herbir sunucuya aynı öğrenim yönetim sistemi kurulmuştur. Gelen istemcilerin bu 4 sanal sunucuya yönlendirilmesi sağlanmıştır. Bu yönlendirmeyi yaparken, çok kriterli karar verme tekniklerinden COPRAS, MOORA ve TOPSIS yöntemlerinden yararlanan bir arayüz inşa edilmiştir. Yönetici, bu 3 yöntemden herhangi birini seçerek dağıtım işlemlerini gerçekleştirebilmektedir. Karar kriterleri olarak sunucunun bellek kullanımı, CPU kullanımı ve sunucu içerisinde anlık kişi sayısı seçilmiştir. Mobil uygulama oluşturulurken PHP, Javascript, HTML5, JAVA, CSS programlama dilleri kullanılmıştır. Veritabanı olarak MySQL seçilmiştir. Önerilen bu yöntemle anlık kullanıcı yoğunluklarının ortaya çıkardığı dezavantajlı durumlar giderilmiş olacaktır.

Keywords

Karar verme teknikleri, Sunucu yönetimi, Topsis, Copras, Moora.

Turkish

İnteraktif Memnuniyet Değerlendirme Sistemi Mobil Kampüs

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Abstract

Üniversiteler, öğretim elemanları ve öğrencilerin eğitim faaliyetlerini sürdürdükleri ve bünyesindeki birtakım farklı departmanların çeşitli hizmetler sağladığı kurumlardır. Başka bir tanımla, üniversite kampüsleri, içerisinde öğretim elemenları, idari personel ve öğrencilerin sosyal ve kurumsal bir ilişki içerisinde oldukları fiziksel mekanlardır. Bir üniversite içerisinde süregelen idari ve akademik işlemlerin sağlıklı şekilde ilerlediğinin tespiti, öğrencilerin durum hakkında yapmış oldukları değerlendirmelerin sonucuna bağlı olarak tespit edilebilir. Bu tip memnuniyet değerlendirme süreçlerinin ölçülmesinde en sık kullanılan yöntemlerden birinin anket yöntemi olduğu bilinmektedir. Bu değerlendirme birbirini takip eden üç aşamadan oluşmaktadır. Bu aşamalar, veri toplanması, verilerin analiz edilmesi ve analiz sonuçlarının değerlendirilmesidir. Bu değerlendirme aşamasında, araştırılan konu ile ilgili birtakım iyileştirmelerin neler olacağı ve bu iyileştirmelerin nasıl gerçekleştirileceği, yöneticilerin cevap aradığı sorulardır. Verilerin kullanıcılardan toplanarak birtakım analizlerin otomatik olarak yapılması ve bu analiz sonuçlarına göre yöneticilere kararlarında destek sağlayacak yapının oluşturulması, bu çalışmanın temel amacını oluşturmaktadır. Bu amaç doğrultusunda fiziksel ve yazılımsal olarak bir sistem tasarlanmış ve Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi kampüsünde kullanıma hazır hale getirilmiştir.

Keywords

Mobil veri toplama, Anket, Mobil kampüs, Bilişim tabanlı karar destek sistemleri, iBeacon.

Turkish

Transforming a Truly Traditional Dairy Product Company's Logistics and Transportation Related Decision Making Processes

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Abstract

Logistics Information System (LIS) and Transportation Management Systems (VTS) are critical in the food sector. Especially, since dairy products are more sensitive to the temperature change and physical damage, finding and solving problems by tracking carriers and monitoring environmental effects are the main topics that LIS and TMS aim to solve. This paper examines a company that produces and distributes dairy products and located in the Marmara Region by using case study research methods. Multiple data collection methods are used in conjunction to reveal the company's current LIS practices and to identify its problems. After revealing problematic business processes in the logistics operation, a roadmap considering data and system integration so as to support decision-making processes has been proposed. Particularly, transportation based data from LIS and TMS which has high potential to offers robust solution for problematic areas was considered for integration within the company.

Keywords

Logistics information system, Transportation management system, System integration, Case study.

Karar Verme Yöntemleri ARAS ve TOPSIS ile Besin Tercihlerine Yönelik WEB Tabanlı Uygulama

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Abstract

Günümüz insanı günlük yaşam koşuşturmasında, nasıl sağlıklı olarak beslenmesi gerektiğine yeterli önemi verememektedir. Her geçen gün kötü beslenmeye dayalı bazı rahatsızlıklar ortaya çıkmaktadır. Yeterli, dengeli ve sağlıklı beslenme kronik yapıdaki hastalıklar da dahil olmak üzere birçok rahatsızlığın giderilmesinde, etkisinin azaltılmasında ya da önüne geçilmesinde anahtar rol oynamaktadır. Bu çalışma, insanların web tabanlı bir program kullanarak çok kriterli karar verme yöntemlerinden ARAS ve TOPSIS ile besin tercih kararlarına destek sağlamaya yönelik olarak gerçekleştirilmiştir. İnsanların olumsuz besin tercihlerinin değiştirilmesi ve daha sağlıklı, mutlu, huzurlu bir yaşam sürmeleri amaçlanmış olup, insanların besin değerleriyle ilgili bilgilerini arttırıp anlayabilme hakkındaki farkındalık düzeylerini olumlu yönde etkileyebilmek ve yaşam standartlarını arttırabilmek için farklı bir bakış açısına sahip olma gerekliliğini ortaya koymak, çalışmanın en önemli yönünü ortaya koymaktadır.

Keywords

Çok kriterli karar verme, ARAS, TOPSIS, Sağlıklı beslenme, Bilişim teknolojileri.

Turkish

Track

e-Government/Digital Government and Smart Administrations

Track Chair

Prof. Dr. Türksel Kaya Bensghir
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Bio

Türksel Kaya Bensghir was a member of UN CEPA Expert for Turkey between the years 2014-2017. Prof. Bensghir published original articles and collections published in journals covered by SCI, SCI-Expanded, SSCI, AHCI and Education-related international indexes. Prof. Bensghir's primary teaching areas are Management Information Systems, E-Government, System Analysis and Design, Knowledge Management in the Public, Management and Organization, Business Administration. Prof. Kaya Bensghir has a number of books published on E-Government, System Analysis and Design, Knowledge Management in the Public, management and organization, Big Data, Business Administration.

Since March 2017, Prof. Bensghir is a member of Cyber Security Working Group in Higher Eucation Council of Turkey.

Brief

As governments try to transform their organizational/managerial and administrative structure and process, their services and relations with all actors based on ICT, Internet/web technology, blockchain and AI, Digital Government is playing increasingly hot topics in Public Administration field and MIS as well.

Digitization created enormous benefits for societies and economies in terms of access to public services, more efficient, transparent and responsive public administration, greater engagement of citizens in political and government affairs, and the development of knowledge-based societies and economies.

However, it is also showing its dark side by increasing existing inequalities as well as by creating new ones. Examples include the explosion of people to cybercrime and loss of privacy, and the enabling of mass manipulation of people's political sentiments.

Digital Government encompasses more than just technology – it challenges the way in which public sector service providers and citizens interact. Democratic renewal, the transformation of service delivery, community leadership and citizenship integration are all key elements and Digital Government is also tightly related to legal, economical and organizational fields and as such holds a strong interdisciplinary status.

Papers

1. A New Emergency Notification System Developed by TÜRKSAT as Part of EMYNOS Project Turkish Field Trials
2. Vatandaş Odaklı Hizmet Sunumu Memnuniyet Ölçümü
3. Integrations of Ministry Of Family, Labor and Social Services: Opportunities, Difficulties and Expectations

Transforming a Truly Traditional Dairy Product Company's Logistics and Transportation Related Decision Making Processes

Sami Yenice[1], Mehmet Aktaş[1], Fazıl Yaraşlı[1], Tunç Durmuş Medeni[2,3], Ahmet Savaş[1], and Halil Yeşilçimen[1]

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Abstract

Türksat, one of the leading operators in the satellite communication business as well as e- government and m-government operations in Turkey, is involved with nExt generation eMergencY commuNicatiOns (EMYNOS) project. EMYNOS project aims to design and implement a Next Generation platform capable of accommodating rich-media emergency calls that combine voice, text, and video, thus constituting a powerful tool for coordinating communication among citizens, call centers and first responders (http://www.emynos.eu/). Connecting EMYNOS infrastructure with m-Government applications in Turkey will allow warning messages to reach many citizens in accordance with three specific use case scenarios. With respect to the Use Case 1, Warning Over Satellite, based upon the emergency warning trigger from KATWARN (for instance an earthquake or terrorist attack warning), users will be able to see an emergency message on their TV screens. The warning message will be provided via Türksat satellite systems.

Keywords

Türksat, EMYNOS, Emergency warning systems, Satellite communications, M-Government applications.

Citizen Oriented Service Offering Satisfaction Measurement*

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[*] Original language of this paper is *Turkish* and title is "Vatandaş Odaklı Hizmet Sunumu Memnuniyet Ölçümü."

Abstract

The aim of this work is to measure the citizen satisfaction from e-government services in Turkey. Accordingly, empiric and theoretical works on "measuring citizen satisfaction from services" provided via E-Government Gateway are discussed. The theoretical works underline the use of Structured Equation Model for measuring citizen satisfaction. The developed model is validated by the collected data from citizens that use the e-government services provided via the gateway. This article, which shares the results of this measurement results, is considered to be the most comprehensive and innovative study in the field of measuring citizen satisfaction from e-government services in Turkey. The resulting work will contribute to the citizen-oriented e-government works in Turkey and the rest of the world.

Keywords

Ciziten-oriented e-government services, citizen satisfaction, satisfaction measurement, structured equation model, E-Government gateway.

Integrations of Ministry Of Family, Labor and Social Services: Opportunities, Difficulties and Expectations

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Abstract

There are many Institutions and Ministries working on social welfare directly or indirectly, aiming to provide better life conditions for all citizens in Turkey. Although the center of the social policies is the newly founded Ministry of Family, Labor and Social Services, the Ministry needs to work in cooperation with other public institutions and voluntary organizations in order to fulfill the tasks given. An effective way of coordinating the services provided by diversity of institutions is using integration opportunities presented by information technologies. Aim of this paper is to expose the key points and the problems of interagency information sharing and integrations in social service welfare besides the benefits, from the perspective of MoFLSS members.

Keywords

Integration, E-Government gate, Social policy.

Track

IT and IS Entrepreneurship

Track Chair

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Bio

Prof. Dr. Erman Coşkun is a full professor of Management Information Systems and Operations Research. He is chair of MIS department at Sakarya University and founding chair of Information Technology at Muhammed Bin Salman College of Business and Entrepreneurship. He has an academic career of over 17 years, having held positions in the United States, Turkey, Cyprus and Saudi Arabia. His research is focused on Business Analytics, Business Intelligence, IT Entrepreneurship, Digital Transformation, Enterprise Resource Planning, and Disaster and Crisis Management.

His research has been published in journals including Government Information Quarterly, Systems and Software, Information and Software Technology, Journal of Homeland Security and Emergency Management and top conferences in MIS area such as International Conference on Information Systems (ICIS), Americas Conference on Information Systems (AMCIS), European Conference on Information Systems (ECIS).

Brief

Digital transformation is changing our individual lives, businesses, goverments, and society day by day and opportunities for new products, services, occupations and businesses are arising. Along with this transformation, new digital technologies, 3rd platform and its applications, big data, data analytics, artificial intelligence, cloud computing, virtual reality, etc. are creating new possibilities for innovation and entrepreneurship in private businesses, govermental organizations, non-profit or social establishments.

Finance, health, education, banking, production, entartainment are just a few industries which we see significant IT related innovations and entrepreneurial activities. Regardless of trigger, the joint impact of digital technology and innovation, entrepreneurship and transformation is clearly evident.

Papers

1. Kamu Kurumlarında Çalışan Bilgisayar Programcılarının Tükenmişlik Düzeylerinin Bazı Demografik Değişkenlere Göre İncelenmesi: Ankara İli Örneği
2. Understanding the Level of ICT Adoption at SMEs from the Entrepreneurship Orientation, Individual Innovativeness and ICT Literacy Perspectives

Examination of Burnout Levels of Computer Programmers Working in Public Institutions Based on Some Demographic Variables: Ankara Province Case*

Vildan Ateş[1,3] and Güven Yıldız[2]

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* Original language of this paper is *Turkish* and title is "Kamu Kurumlarında Çalışan Bilgisayar Programcılarının Tükenmişlik Düzeylerinin Bazı Demografik Değişkenlere Göre İncelenmesi: Ankara İli Örneği."

Abstract

The purpose of this research is to determine the relationship between the burnout levels of computer programmers who works in public institutions in Ankara province and based on some demographic variables. Working group of this research consist of 110 computer programmers who work in six institutions (Ministry of Health, Customs and Trade Ministry, Turkey Pharmaceuticals and Medical Devices Agency, Science and Industrial Technology, Ministry of Information and Technology Authority by Turk Telekom) in Ankara province. The Maslach Burnout Inventory (MBI) was used as the data collection tool in the study and the data were analyzed using the SPSS 22.0 program. As a result of the explatory factor analysis (EFA), Pearson correlation analysis, positive correlations were found between sub dimensions (emotional exhaustion, depersonalization, decrease of personal achievement) of the MBI. One-way analysis of ANOVA showed that gender and occupational choice decision was not statistically significant for computer programmer's burnout score. But it was seen that working in another institution had an effect on burnout score.

Keywords

Computer programmers, Burnout, Maslach burnout scale.

Understanding the Level of ICT Adoption at SMEs from the Entrepreneurship Orientation, Individual Innovativeness and ICT Literacy Perspectives

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Abstract

Studies of adoption and utilization level of Information and Communication Technologies (ICTs) in SME context have examined a wide range of antecedents of ICT adoption in addition to its consequences. Characteristics of SMEs are totally different in terms of resources, knowledge, skills, decision making mechanisms and authority. Limited resources and owner or manager of the company are critically important at SME context as these are the main drivers of the adoption. Thus, this study mainly focuses on the factors associated with the owners/managers of the company and merges a wide range of factors that have been mentioned by the relevant literature. However, literature lacks of studies which investigates the independent effect of Entrepreneurship Orientation (E0), ICT literacy of the owner/manager and his/her individual innovativeness. These factors are believed to be valuable metrics in explaining the level of ICT adoption at SMEs. Hence, in order to examine these factors and reveal a comprehensive evidence an empirical research was conducted among SMEs from different industries which demonstrate different levels of ICT adoption.

Keywords

ICT adoption, entrepreneurship, ICT literacy, innovativeness.

Track

Industry 4.0

Track Chair

Prof. Dr. Alptekin Erkollar
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Bio

Alptekin Erkollar is a professor for management information Systems at Sakarya University, Business School, Department of Management Information Systems, Sakarya, Turkey.

Prof. Erkollar's research expertise includes management information systems, industry 4.0 and the factory of the future, production management, technology management, modelling of business systems and simulation. Some of his recent publications include 'Flextrans 4.0 – Smart Logistics for Smart Cities', 'Industry 4.0: Big Data Revolutions require Smart Technologies' and 'Sustainable Cities Need Smart Transportation: The Industry 4.0 Transportation Matrix'. He is an author/editor of several books, more than 200 refereed papers, and an editorial board member of 13 international journals. His recently edited book 'Enterprise and Business Management - Industry 4.0' is the 2018 volume of the international EBM Series.

Brief

Industry 4.0, referred to as the fourth industrial revolution, has exponentially grown starting from manufacturing sector, and is sweeping across industries, changing everything from production, business models, customer relations, research projects, education, regional, national and global innovation strategies. The driving force behind this development is the rapidly increasing digitization of economy and society and a growing concern with customer centricity and user-driven innovation. Industry 4.0 depends on a number of technological developments, one of them being information and communication technologies, which are used to digitize information and integrate systems at all stages of product development and service life, both inside an organization and cross-organizational. It depends on decentralization, virtualization, interoperability, real-time capability, and service orientation. Numerous industries around the world have set onto industry 4.0 in an attempt to boost competitiveness and product quality. Technology trends forming the building blocks for Industry 4.0 are big data and analytics, augmented reality, simulation, additive manufacturing, the cloud, cyber security, the (industrial) internet of things, horizontal and vertical system integration, and autonomous robots. These technologies will lead to greater efficiencies and change traditional relationships among suppliers, producers, and customers, as well as between human and machine.

Papers

1. Endüstri 4.0'ın İnsan Kaynakları Planlaması Üzerine Etkileri
2. ERP-Related Issues and Challenges in Turkey: An Overview from ERP Experts
3. Internet Nesnelerinin Veri Takası ve Değer Aktarımı Üzerine Metot Önerisi
4. Bir İmalat İşletmesi için Endüstri 4.0 (Dijital) Olgunluk Seviyesi Belirleme Uygulaması
5. Endüstri 4.0 Kapsamında Akıllı Fabrikaların İncelenmesi

The Effects of Industry 4.0 on Human Resource Planning*

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* Original language of this paper is *Turkish* and title is "Endüstri 4.0'ın İnsan Kaynakları Planlaması Üzerine Etkileri."

Abstract

Industry 4.0 is defined in scope of high-tech strategy by German government. It is an idea that intelligent robots take over the production for flexible, cheap, fast and good quality of products. It is designed based on information and communication technologies such as cyber-physical systems, internet of thinks, internet of services. Industry 4.0 will not only affect industry but also affect all sectors in the near future. Industry 4.0 which includes full integration across processes and advanced engineering targets that high value-added production competition instead of cheap labor-based competition. As a result, the relationship between industry 4.0 and human resource management will be revealed and the effect of industry 4.0 on human resource planning will be analyzed. In this context, the deals done Industry 4.0 SWOT analysis market in terms of Turkey, opportunity, threats, strengths and weaknesses have been identified. Then, the possibility of affecting the human resources planning of Industry 4.0 is discussed. In general, qualitative research method was used in the study and a theoretical discussion was made in this direction. In short, the Human Resources Planning has reached the conclusion that the form requirements, content and scope should be changed.

Keywords

Industry 4.0, Human resources planning, Virtualization.

ERP-Related Issues and Challenges in Turkey: An Overview from ERP Experts

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Abstract

The Enterprise Resource Planning System (ERP) is an integrated information system for competitive enterprises in the era of globalization, especially for managing their activities effectively. These systems are enormously complex systems that require tremendous investment on especially consulting, training, hardware, and software within corporate time and resources. Moreover, their implementation processes often entail significant challenges, difficulties, and risks. In this paper, it is aimed to introduce the most important issues and challenges of implementing an ERP system, in both large enterprises and SMEs in Turkey. Exploratory research was conducted by using a small-scale survey among 31 ERP experts of 31 Turkish companies from different industries. The findings show that user resistance is the most compelling factor influencing ERP implementation success in Turkish companies. Additionally, lack of well-planned project duration and implementation steps, as well as inadaptability with ERP product are the other notable factors affecting native ERP implementation success.

Keywords

ERP systems; ERP implementation success, Exploratory research, Turkey.

Data Exchange and Transfer Value Proposal on Method Of Internet of Things*

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* Original language of this paper is *Turkish* and title is "Internet Nesnelerinin Veri Takası ve Değer Aktarımı Üzerine Metot Önerisi."

Abstract

There will be many areas for the continuous development of the internet of objects and the processing of large amounts of data it brings. However, in addition to seeing the produced value as a value, transferring the ownership of the data and the data to the requesting company is not clarified. The method has been proposed on the basis of transferring the data, determining the basic criteria for processing and defining the value transfer process.

Keywords

Internet of things, Blockchain, ValueWeb, Big data, infomediary.

Bir İmalat İşletmesi için Endüstri 4.0 (Dijital) Olgunluk Seviyesi Belirleme Uygulaması

Tijen Över Özçelik[1,2], Alptekin Erkollar[1], and Halil İbrahim Cebeci[1]

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Abstract

Bu çalışmada pilot bir uygulama olarak Sakarya ilinde makine imalatı gerçekleştiren bir işletmenin dijital olgunluğunun ölçülmesi, bunun yanı sıra işletmenin güçlü ve geliştirilmesi gereken yönlerinin belirlenmesi amaçlanmıştır. Çalışmada öncelikle literatürden hareketle dijitalleşme endeksi ölçümlerinde göz önünde bulundurulan dokuz ölçüt ele alınarak bu ölçütlerin etki bileşenlerini yansıtacak şekilde sorular hazırlanmıştır. Ölçütlerin dijitalleşme endeksi bakımından etkililerinin farklı olduğu/olabileceği kabul edilerek her bir ölçüt uzmanlarla Analitik Hiyerarşi Prosesinden faydalanılarak ağırlıklandırılmış ve bu ağırlıklar bağlı olduğu ölçüt için hazırlanan her bir soru ile çarpılarak her bir sorununda ağırlığı belirlenmiştir. İşletmedeki uzmanlara uygulanan anket sonuçları değerlendirilerek işletmenin dijitalleşme endeksi 2,73 olarak hesaplanmış ve endeks değerine göre işletme 5 seviyeli olgunluk modeli kullanılarak yaklaşık olarak 3. seviye olarak belirlenmiştir.

Keywords

Industry 4.0, Technology roadmap, Maturity model, Maturity level, Digital maturity.

Turkish

Investigation of Smart Factories within the Scope of Industry 4.0*

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* Original language of this paper is *Turkish* and title is "Endüstri 4.0 Kapsamında Akıllı Fabrikaların İncelenmesi."

Abstract

In recent years, Smart Factories has provided a more flexible and feasible manufacturing system for companies, especially in production sectors. Especially, it has taken place in many fields, from mechanical commissioning equipment to electronic and computer technology to automation and control areas. In this study, firstly the concept of Industry 4.0 is examined and its sub-components are briefly explained. However, 'Smart Factories' has been examined in detail in Industry 4.0 scope. In this context, we have discussed the processes from the traditional factories to the intelligent factory evolutionary process, the intelligent factory architecture, the basic features, the life cycle, the tasks, the areas of use and the technologies that are required to create these factories. As a result of research, even though it still has some technical difficulties in practice, it is obtained that smart factories can provide automation by supporting the production equipment with robot technologies, and it can update with the help of machines or easily adapt to new environments. Nevertheless, it has been found that intelligent factories have been effectively utilized in the implementation of a sustainable manufacturing process to cope with global challenges.

Keywords

Industry 4.0, Smart factory, Manufacturing industry, Automation.

Track

Knowledge Management

Track Chair

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Bio

Dr. Sevinc Gülseçen is a Professor and Head of the Department of Informatics at Istanbul University and also Director of Computer Applications and Research Center, Istanbul, Turkey. She has her bachelor degree in math and astronomy from Faculty of Natural Sciences and her doctoral degree in artificial neural networks from Faculty of Business, Istanbul University.

Dr. Gulsecen has her primary teaching and research interests in system analysis and design, constructivist learning, e-learning, computer-mediated communications, e-government, community and social informatics, and knowledge management. She has published her research in more than 50 papers in several national and international journals, conference proceedings and edited books such as International Journal of E-adoption, IEEE Technology and Society Magazine, Educational Technology and Society, Euroasia Journal of Mathematics, Science and Technology Education, International Review of Research in Open and Distance Learning, Education and Information Technologies, Technologies for Enhancing Pedagogy, Engagement and Empowerment in Education: Creating Learning-Friendly Environment.

Dr. Gülseçen has been member of Istanbul University International Academic Relations Board, Istanbul University Institute of Science Academic Board and Turkish Informatics Society. Dr. Gulsecen has served on the editorial board of several refereed journals and has reviewed manuscripts and conference proceedings. She has served as a moderator and session chair at national and international conferences. She was a Turkey delegate to USA, England, Italy, Germany, Poland, Slovakia, Lithuania, Bulgaria and China for her professional meetings and work. She has also worked with business professionals for her consulting and research.

Dr. Gülseçen is a co-founder and co-chair of the international conference named "FutureLearning: Innovations in Learning for the Future".

Brief

Knowledge Management (KM) is the process of creating, sharing, using and managing knowledge in organizations. It is a multidisciplinary approach concerned with the analysis and technical support of organizational practices. While effective knowledge management is one of the most important sources of competitive advantage, it is also a critical component of the success of contemporary organizations.

All perspectives on KM share the same core components, namely: people, processes and technology. In this track, we welcome KM related papers whether they have a techno-centric focus, in order to enhance knowledge integration and creation; organizational focus, in order to optimize organization design and workflows; or people focus, where the important aspects are related to people interaction, knowledge and environmental factors.

Papers

1. Çölyak Hastalarının Etkin Bilgi Yönetimini Olumsuz Etkileyen Unsurların Sanal Örgütler Bağlamında Araştırılması
2. Kariyer Yolculuğunda Akıllı Bir Adım
3. Reflections from GDPR to Turkish Data Protection Act in the Context of Privacy Principles
4. A Comparative Stakeholder Analysis of ZESA

Investigation of Factors Affecting Efficient Information Management of Celiac Patients in the Context of Virtual Organizations*

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* Original language of this paper is *Turkish* and title is "Çölyak Hastalarının Etkin Bilgi Yönetimini Olumsuz Etkileyen Unsurların Sanal Örgütler Bağlamında Araştırılması."

Abstract

The study includes an infrastructure study that will propose a knowledge management model that will help patients and their relatives who have been diagnosed with celiac disease to reach accurate and reliable information quickly and efficiently and reduce the disease fighting process as much as possible. In this study , which has two research questions; the reasons for not establishing communication with new celiac patients in the province, the reasons for the process not to acceptance of these patients, and the contribution of celiac associations to this process were investigated. The findings of the study were obtained by qualitative analysis of data obtained on the basis of interviews with the managers of 16 celiac associations operating in Turkey. It was seen that celiac disease patients were more affected than social factors in terms of communication, and the most environmental factor was the contact even when they did not accept the celiac disease process. It can be said that the favorable contribution to the processes of the patients who have been diagnosed with celiac disease all over the world. At the same time, virtual organization, external environment and patients can be brought together to find that the patient adapts faster to the process.

Keywords

Virtual organizations, knowledge management, celiac disease.

Kariyer Yolculuğunda Akıllı Bir Adım

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Abstract

Birçok farklı faktörün etkisiyle yapılandırılan ve insan yaşamı ile entegre olmuş oldukça önemli bir süreç olan kariyerin başarılı bir şekilde yapılandırılması bu faktörlerin ve bu faktörler arasındaki etkileşimin doğru anlaşılıp yönetilmesine bağlıdır. Kişilik ve meslek ve ilişkili pozisyonlar arasında uyum sağlanması da bu açıdan oldukça önemlidir. Bir Devlet Üniversitesi öğrencilerinin kendilerini tanımalarına katkı sağlamak için "Beş Faktör Kişilik Envanteri"nin uygulanması ve iş ilanlarında yer alan niteliklerin bu kişilik özellikleriyle ilişkisinin ortaya konması için teknolojik bir alt yapıdan yararlanılması amaçlanmaktadır. Bu çalışma ile öğrencilerin kendilerini daha nesnel bir şekilde tanımalarına katkı sağlamak, kendi özelliklerinin iş hayatında kendi bölümleri ile ilgili hangi pozisyonlar için daha uygun olduğunun farkına varmalarını ve mezuniyet sonrasında iş yaşamına en uygun pozisyondan başlamalarını sağlayacak bir plan yapmaları çabalarını teknoloji ile desteklenmek amaçlanmaktadır. Böylece daha fazla öğrencinin kariyerlerinde akıllı bir adım atmaları için bilgi sistemlerinin olanaklarından da faydalanılacaktır.

Keywords

Kariyer planlama, Kişilik, Bilgi sistemi.

Turkish

Reflections from GDPR to Turkish Data Protection Act in the Context of Privacy Principles

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Abstract

In this paper; we put forward the key changes introduced in the General Data Protection Regulation (GDPR) framework, particularly referring to its underlying privacy (data protection) principles. Besides; we examine the historical roots of the Turkish Law on Protection of Personal Data (KVKK) and its referring set of principles. The study provides a comparative analysis of the privacy principles imposed in both frameworks with their brief explanations and key aspects. Since GDPR is globally regarded as one of the newest and most comprehensive legislation in the field of data protection, we highlight the gaps and probable changes that will affect KVKK based on GDPR. The study reveals that KVKK framework lacks a fundamental principle; "Accountability" for effective implementation of data protection principles.

Keywords

GDPR, Privacy principles, Accountability, Law of Turkish data protection, KVKK.

A Comparative Stakeholder Analysis of ZESA

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Abstract

SWOT analysis is widely used in many organizations when devising their annual or quarterly strategic plans. However many of these analyses are done with one or two stakeholders overlooking the fact that multiple stakeholders are necessary in devising strategies that will bring value to all. The study used strategic management theory to test the assumption that different stakeholders would hold different perspectives in a S.W.O.T. analysis. Open ended questionnaires were distributed to participants and 8 responses were acquired from consumers, frontline staff and executives. The questionnaire was comprised of probe questions for the strengths, weaknesses, opportunities and threats of ZESA. Although there were a number of similarities in terms of themes, three different perspectives did stem from the study according to the three stakeholders' responses. The study's recommendations on theory, research and managers were discussed. As a result the work successfully demonstrated a working method of multi-stakeholder perspective to conduct S.W.O.T. analysis in a South African company that operates in electricity sector.

Keywords

Stakeholders, SWOT analysis, Perspective.

Track

Medical Informatics

Track Chair

Prof. Dr. Haldun Akpınar
Marmara University, Turkey

Dr. Adil Deniz Duru
Marmara University, Turkey

Bio

Dr. Haldun Akpınar has punched his first punched card in 1979 and he has developed his first professional software in 1981. He has been working in Information and Communication Technologies as a software developer, a system analyst, a consultant and a project manager as well as an educator for almost 40 years. He has directed the head of the Department of Business Informatics (in German) at Marmara University from 2003 to 2014.

He has also worked at the University of Illinois (U.S.A.), at Beckman Institute between 1991 and 1992, at the International Tokyo University (Japan) in 1993, at the Jönköping University (Sweden) in 1997, at the University of Otago (New Zealand) in 2000 and at many Universities in Germany until today. He has published 12 books in Turkish and German, and numerous research papers and articles.

Dr. Adil Deniz Duru was born in Istanbul in 1979. He received the B.Sc. degree in computer engineering from Istanbul University, Turkey, in 2000, and the M.Sc. and Ph.D. degrees in biomedical engineering from the Institute of Biomedical Engineering, Bogazici University, Turkey, in 2004 and 2012, respectively. He was the recipient of Prof. Dr. Necmi Tanyolaç Award of Bogazici University in 2012. He worked as a Post-Doc researcher in Hulusi Behcet Life Sciences Center in Istanbul University.
In 2013, he joined the Faculty of Sport Sciences in Marmara University as an Assistant Professor. His current research interests include biomedical signal processing, algorithm design and implementation and data mining in medicine. He has published 6 journal articles (SCI(E)) and more than 30 full page international conference paper.

Brief

Modern information technology is an indispensable component in medicine for storing and analyzing health records. Computer science and medical professionals collaborate to develop solutions in the topic of bioinformatics, public health informatics, organizational informatics and clinical informatics. The use of medical informatics support both the clinicians and researchers in the diagnosis and treatment plans for several diseases.

From micro to macro scale, advancements in the biomedical measurement technology provide relevant information about the anatomy as well as the functionality of the human body. Machine Learning algorithms can be successfully implemented to fuse the data collected from several biomedical measurement systems and to form a decision either by fusing or comparing the obtained information. However the huge amount of medical dataset is needed to be investigated based on various algorithms in order to extract the hidden relevant information.

Papers

1. Merkezi Hekim Randevu Sistemi İçin Öneriler
2. Dermatoloji Alanında Klinik Muayane ile Tele-Tıp Uygulamasının Teşhis ve Tedavi Uyumluluk Tespiti: Web Tabanlı Özgün Yazılım Tasarımı ve Test Edilmesi
3. Smart Newborn: A Tool for Early Prediction of a Severe Preterm Newborn Illness

Suggestions for Centralized Doctor Appointment System*

Muhammed Çağrı Aksu[1,3], Yıldız Ateş[2], Hicran Yaman[2], and Ersin Karaman[2]

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* Original language of this paper is *Turkish* and title is "Merkezi Hekim Randevu Sistemi İçin Öneriler."

Abstract

Information systems are used in every field as in healthcare. Patients' visit to the hospitals by appointment and examination without waiting provides great advantage to them in terms of time. R.T. Ministry of Health uses the Centralized Doctor Appointment System for its citizens to access easier healthcare and to get more efficient and productive health services. Through the CDAS, citizens get appointments with any doctor from the hospitals registered in the system. With MHRS, it is aimed to make better resource planning in hospitals, increase the satisfaction of citizens and reduce queues in hospitals. CDAS has apparently many advantages for citizens and hospitals. However, this appointment system offered by the ministry to the citizens can be more advantageous with some improvements. In this study, some improvements are recommended for CDAS of the R.T.Ministry of Health.

Keywords

CDAS, Ministry of health, Information systems.

Diagnosis and Treatment Compliance Determination of Telemedicine Application by Clinical Examination in Dermatology: Web Based Original Software Design and Testing*

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Abstract

Development of information and knowledge in constantly evolving world is gaining value. Banking and finance, education, large amount of information in areas such as health are get valuable processed by computers. Thanks to desktop, web-based and mobile-compatible automation systems, information flow and management are provided in institutions. In this study, a web-based telemedicine application was designed and implemented. In the administrator part of the web-based application, the user, patient, device, diagnostic, listing, deleting and editing authority, as well as the examination taken images of the patients by special devices can be filtered and sent to other doctors. In the statistics section of the administrator module, the patients who are sent, the diagnoses and the treatments made by the doctors can be listed collectively. The user who is logged on as a doctor examines the image of the patient obtained by different devices and determines the diagnosis and treatment. In the conclusion section, it were compared of the results of examination on the internet with clinical setting. Some types of diseases, the clinical and telemedicine diagnosis treatment rate was 100%, while other type of diseases the average of similarity rates was 88.82%.

Keywords

Clinical Information Systems; Telemedicine; dermatology and telemedicine; tele-surgery; medical information system; clinical examination and telemedicine

Smart Newborn: A Tool for Early Prediction of a Severe Preterm Newborn Illness

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Abstract

Late Onset Neonatal sepsis, occurring after third day of life is a major cause of morbidity, mortality and increased healthcare costs among preterm babies. Infants are often diagnosed only when seriously ill, which decreases the probability for prompt, complete recovery with antibiotic therapy. Therefore in advance diagnosis adds significant value. There have been many research for early diagnosis by analysing patterns in non-invasive physiological data of infants. Our prototype, "Smart Newborn", is a pilot medical informatics system to retain patient based temporal non-invasive data along with physicians' patient status comments and diagnosis information. As initial study, we illustrate differences of hourly pulse rate histograms of a representative patient at sepsis stages: i- healthy (48 hours before suspicion), ii- 24 hours before suspicion, iii- time of sepsis suspicion and blood withdrawal of positive culture test, which give an idea regarding the heart rate characteristics variations and sepsis risk of the infant.

Keywords

Medical decision support system, Big data processing, Data visualisation.

Track

MIS in Military

Track Chair

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Prof. Dr. Alptekin Erkollar
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Bio

Dr. Benzer graduated from Istanbul University Engineering Faculty Computer Science Engineering Department. He received his Master's degree from Sakarya University Institute of Science and his Ph.D. from Gazi University Institute of Science.

His research focuses on mathematical modeling, information system, artificial neural networks, expert systems, computer networks, forensic computing, software engineering, predictive modeling. He worked as an administrator in the communication project at the Turkish Armed Forces General Staff. He worked as project manager at Tubitak Project. His work is published in book, articles, and chapters. He is a fellow of The Turkey Chapter of Association For Information Systems (TRAIS)

Alptekin Erkollar is a professor for management information Systems at Sakarya University, Business School, Department of Management Information Systems, Sakarya, Turkey.

Prof. Erkollar's research expertise includes management information systems, industry 4.0 and the factory of the future, production management, technology management, modelling of business systems and simulation. Some of his recent publications include 'Flextrans 4.0 – Smart Logistics for Smart Cities', 'Industry 4.0: Big Data Revolutions require Smart Technologies' and 'Sustainable Cities Need Smart Transportation: The Industry 4.0 Transportation Matrix'. He is an author/editor of several books, more than 200 refereed papers, and an editorial board member of 13 international journals. His recently edited book 'Enterprise and Business Management - Industry 4.0' is the 2018 volume of the international EBM Series.

Brief

Management Information Systems is a trigger scientific area for all aspects of life. From the business point of view, the military area is an important sector for the using of MIS. This is not only important for decisions or correct behavior of systems but regarding answer speed and connectivity with other systems. Today's military operations are similar to business systems with more complexity and more risk factors. Therefore there are implemented many software applications for a different area in the military. On the other hand, military uses a standard application as well, such as ERP, HR or inventory control.

Many operations research and planning systems were firstly implemented in the military area and then in business or industry areas. Military applications are a trigger for many areas. Today applications are the same with the using of the internet or big data, and the military is a trigger for other sectors again. This trigger can be interpreted regarding business models, concepts, national and global innovation strategies and education. The central aspect today is digitalization.

Papers

1. An Application of Artificial Neural Network Based Intrusion Detection System[s]
2. Siber Güvenlik Alanında Derin Öğrenme Yöntemlerinin Kullanımı
3. Electronic Warfare and Cyber Warfare During the Time of Computers
4. Technological Management: A Case Study of Lane Engineering

An Application of Artificial Neural Network Based Intrusion Detection System[s]

Salih Erdem Erol[1] and Recep Benzer[2,3]

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Abstract

Information systems are one of the areas where public and private sector invested the most in recent years. Almost every area of life, including critical infrastructure systems (electricity, water, telecommunications, banking, etc.), is managed by information systems. These developments provide an environment for the rapid increase of cyber-attacks and their application in very different ways. In this study, Intrusion Detection Systems, one of the basic elements for information security, will be evaluated and the results obtained from a sample ANN based IDS application will be analyzed.

Keywords

Information security, Intrusion detection system, ANN, Machine learning.

Use of Deep Learning Methods in Cyber Security*

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* Original language of this paper is *Turkish* and title is "Siber Güvenlik Alanında Derin Öğrenme Yöntemlerinin Kullanımı."

Abstract

While the cyber world has been a part of our life, it can be the target in the evil people who are born from the value of the information that circulates in this environment. In this respect, Cyber Security studies have evolved to solve problems requiring large and complicated operations due to the speed of data transmission and the development of technological infrastructures. Deep Learning methods have given a great viewpoint to the problems that should be used in learning methods such as classification or clustering by processing large data. With Deep Learning methods, which are now used in many areas of Siberian Security, while the other machine learning methods have lower performances, higher performance rates are obtained and quality of problem solution is improved. In this study, some deep learning methods used and the usage areas in Cyber Security are presented as a compilation study.

Keywords

Cyber security, Deep learning, Artificial neural networks.

Electronic Warfare and Cyber Warfare During the Time of Computers

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Abstract

By the significant roles of computers and computer systems in both military and governmental issues, related to these, electronic and cyber warfare subject has become a huge subject to learn search and discuss. In this paper, the definitions of both electronic warfare (EW) and cyber warfare (CW) will be explained, historical examples around the world will be given and the both similarities and differences will be discussed.

Keywords

Electronic warfare, Cyber warfare, Espionage.

A Case Study in an Engineering Company: Evaluation of Perfomances

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Abstract

Lane Engineering (LE) is an engineering firm whose main line of business is production and precise engineering. The main purpose of this study was to evaluate the impact of the balanced scorecard and value chain analysis on the financial performance of LE with specific focus on technological development. The study adopted and enhanced a case study which was conducted as part of a project work at Near East University in 2017. The company materials were collected by the Ph.D. student coauthor from the available public and private information sources of the company. Also, the Ph.D. student co-author conducted telephone interviews with LE Directors and employees who provided her with detailed information about LE structure, operations, vision, market share and challenges. Additionally, other academic and conceptual issues were employed to provide LE with recommendations of technology and innovation management. The results indicate that LE keeps a proper inventory system, however the inventory system has a weakness in that it is not linked technologically to other departments which can minimize losses through pilferage. The results also show that LE plant and equipment is old and unreliable which adversely impacts on efficiency of LE.

Keywords

Lane engineering, Balanced scorecard, Value chain analysis, Technology and innovation management.

Track

Novel Approaches to Evaluation and Assessment of Information Systems

Track Chair

Assoc. Prof. Derya Fındık
Ankara Yıldırım Beyazıt University, Turkey

Bio

Assoc. Prof. Dr. Derya Fındık is an associate professor of Management Information Systems at the Ankara Yıldırım Beyazıt University. She received her BS from Istanbul University, her MA and Ph.D from Middle East Technical University. Her main areas of interest are entrepreneurship, ICT adoption, and innovation management. Her publications have appeared in journals such as Journal of Technology Transfer, Applied Economics Letters, International Journal of Innovation and Technology Management, and İşletme, İktisat Finans.

Brief

IS evaluation is a complex process that necessitates multi-level analysis including various components such as actors, relations, context, and methodology. We observe three approaches in the IS literature such as positivism, intepretivism, and critical theory that help researchers reveal dynamics of evaluation. Positivist approach to IS assumes that reality is objectively determined and independent of the researcher. A new system developed within a firm or acquired from an outside vendor, therefore, is treated as a final outcome. Internal users' perceptions and attitudes towards a new system are neglected in many cases. Interpretivist approach, on the other hand, focuses more on understanding the effect of this system on organization. Critical theory emphasizes the role of history in constructing social reality. In other words, reality and actors are mutually dependent on each other. Actors are constrained by various forms of social, economic or cultural domination.

Paper

1. The Critical Success Factors for Manufacturing Execution Systems (MES) Adoption in the Defense Industry of Turkey: An Industrial Case Study

The Critical Success Factors for Manufacturing Execution Systems (MES) Adoption in the Defense Industry of Turkey: An Industrial Case Study*

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Abstract

Digital addiction, a danger that software system users on the social The main objective of this paper is to investigate the Critical Success Factors (CSFs) of Manufacturing Execution Systems (MES) adoption using the case of a Turkish defense industry firm with both a quantitative and a qualitative research design. After the critical factors that are used in the adoption and implementation assessment in different countries and sectors are determined in the literature, about one hundred questionnaires and five interviews are conducted at a defense industry firm. The paper draws upon Information System (IS) success models and Enterprise Resource Planning (ERP) research models to develop and test a model of MES adoption to the extent of individual use effect and the individual work performance effect as dependent variables. The results of the analysis reveal that communication and business process reengineering are positively related to both dependent variables, while complexity of MES has a negative relationship with individual use effect. Top management/supervisor support and compatibility of software and hardware are positively associated with the adoption of MES. Moreover, qualitative analysis shows similar results, and thus increases the validity of the findings. The results indicate that more customization is needed and more attention should be paid during the MES implementation for better adoption.

Keywords

Manufacturing execution system, Critical success factors, Defense industry.

Track

Social Media

Track Chair

Prof. Dr. Üstün Özen
Atatürk University, Turkey

Bio

Prof. Dr. Üstün Özen is a professor and chair at Management Information Systems Department, Atatürk University. Dr. Ozen's research and teaching expertise include management information systems, systems analysis and design, social media analysis, e-commerce and e-business, e-transformation, and decision support systems.

Brief

In recent years, social media have had a very serious impact on the socialization of individuals, cultural interaction, firms' understanding of doing business, politics, the economy and many other areas. It is a fact that social media influences and directs society in many ways. It is observed that social media is playing an important role in directing politics and mobilizing masses in many countries. Companies use social media as an effective tool to promote and market their products and to attract new customers. They are developing new strategies for improving quality of goods and services through feedback from their customers. Through social networks, people can reconnect with old friends, acquaintances, make new friendships, exchange ideas, and share many of their interests. In addition, through social networks, people are actively using social networks to improve their careers and find new business and job opportunities.

Paper

1. A Meta-Analysis of Social Media & Learning Studies in Educational Research
2. A Community-aware Network Growth Model for Synthetic Social Network Generation
3. Gençler Arasında Sosyal Medya Kullanım Karakteristikleri
4. LinkedIn for Recruitment: An Examination of Recruiters Use of the "Apply" and "Easy Apply" Features
5. SBM Based Community Detection: School Friendship Network
6. Bir Bölgenin Destinasyon İmajı ve Sosyal Ağların Reklam için Etkin Kullanımı: İzmir Sığacık Örneği
7. Mobil Sosyal Ağlar Üzerine Küresel Ölçekte Yapılan Yayınların Değerlendirilmesi: Bilimetrik Bir Araştırma
8. Stokastik Aktör Bazlı Model Yardımıyla Sosyal Ağ Dinamiklerinin Belirlenmesi

A Meta-Analysis of Social Media & Learning Studies in Educational Research

Birgül Kutlu[1], Burç Çeken[1], Meltem Mutlutürk[1], and Canan Türkmen[1,2]

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Abstract

Understanding the main focus of social media for learning studies and how they are conducted is important to understand where the research is headed. Hence, this study is aimed to explore and analyze state of the art articles that focus on both social media and learning. Meta-analysis is employed as a methodology and 152 articles published between 2008 and 2017 are investigated through content analysis. The results are interpreted with descriptive statistics. As a result, it is found that; (1) most of the studies incorporate Facebook, Twitter, and YouTube for learning, (2) the majority of studies are based on students, (3) quantitative approach using surveys are frequent while case studies and experimental designs are the primary means of research method, (4) higher education is in the focus of the studies, (5) Europe contributed to the literature the most, and (6) the number of studies is increasing throughout the years.

Keywords

Social media, Social network, Learning, Meta-analysis, Content analysis.

A Community-aware Network Growth Model for Synthetic Social Network Generation

Furkan Gürsoy[1,2] and Bertan Badur[1]

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Abstract

This study proposes a novel network growth model named ComAwareNetGrowth which aims to mimic evolution of real-world social networks. The model works in discrete time. At each timestep, a new link (I) within-community or (II) anywhere in the network is created (a) between existing nodes or (b) between an existing node and a newcoming node, based on (i) random graph model, (ii) preferential attachment model, (iii) a triangle- closing model, or (iv) a quadrangle-closing model. Parameters control the probability of employing a particular mechanism in link creation. Experimental results on Karate and Caltech social networks shows that the model is able to mimic real-word social networks in terms of clustering coefficient, modularity, average path length, diameter, and power law exponent. Further experiments indicate that ComAwareNetGrowth model is able to generate variety of synthetic networks with different statistics.

Keywords

Networks and graphs, Network growth models, Graph generators, Communities.

Social Media Usage Characteristics Among Youth*

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* Original language of this paper is *Turkish* and title is "Gençler Arasında Sosyal Medya Kullanım Karakteristikleri."

Abstract

Nowadays, social media can be used in many areas of our Daily lives, and the emergence of social media has been realized by switching from Web 1.0 to Web 2.0. Web 1.0 was the period when communication was unilaterally. When the use of the Internet increased in the Web 2.0 era, communication was mutual and consumers were able to comment and criticize. Many social media applications have emerged in which personal information, thoughts, pictures and videos can be shared. Social media applications are used more actively by youngsters, tough addressing to all age groups. It is also thought the use of these applications differed by education. A survey was conducted with 225 students to examine how social media usage in this framework changed according to the level of education. In the questionnaire applied to the high school, undergraduate and undergraduate students, the frequency of use of the social media platforms and the purposes of which these platforms were used were examined. This study attempted to determine social media usage characteristics among young people.

Keywords

Social media usage, Education and social media relations, Survey.

LinkedIn for Recruitment: An Examination of Recruiters Use of the "Apply" and "Easy Apply" Features

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Abstract

LinkedIn is used by over 500 million people and has been found to be the most popular recruitment site used by Human Resource professionals for recruiting employees. LinkedIn has continued to evolve, improving users' experiences and the platform's interface. Recently, it was noticed that this networking site has more than one application method on job posts: 'Easy Apply' and 'Apply'. This research examines why and for what purpose recruiters use either feature for recruitment. The findings showed that most recruiters prefer 'Easy Apply' for all recruitment on LinkedIn because of its ease of use. This study provides a preliminary foundation for understanding the use of LinkedIn by recruiters and job seekers.

Keywords

LinkedIn, Recruitment, Apply, Easy apply.

SBM Based Community Detection: School Friendship Network

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Abstract

Many networks of interest to Information Systems researchers exhibit community structure. This macro-scale structure is so natural that community detection is an essential task to divide large networked data sets into manageable groups to enable an understanding of a system at the meso-scale. In the present work, we aim at introducing this elegant approach as the state-of the-art knowledge to the IS research community, manage to extent the method to multi-edge networks, and apply successfully the extended method to a real-world school best friendship context.

Keywords

SBM, Community detection, Best friends network; School management.

Destination Image and Efficient Use of Social Networks for Advertising of a Region: İzmir Sigacik Example*

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* Original language of this paper is *Turkish* and title is "Bir Bölgenin Destinasyon İmajı ve Sosyal Ağların Reklam için Etkin Kullanımı: İzmir Sığacık Örneği."

Abstract

Social networks have become a part of our daily lives. The number of contents increases with increasing number of social network users, creating a rich source of research data. Positioning strategies enable more efficient marketing of products, services or tourism areas. In addition, the image of a product over consumers have become important to activities such as marketing and increasing the number of customers. Furthermore, using social networks to promote the efficiency of marketing activities are significant to contemporary marketing strategies. This study was aimed at determining the destination image by utilizing Instagram posts of the Sigacik area located in Seferihisar, Izmir as the source of data. The study also aimed to identify the factors that acted on advertising efficiency for promoting Sigacik on social networks based on user and post data of users who shared images of the area on Instagram.

Keywords

Destination image, Computer vision, Instagram, Regression analysis, Sigacik.

Evaluation of Publications Concerning Mobile Social Networks on a Global Scale: A Scientometric Research*

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* Original language of this paper is *Turkish* and title is "Mobil Sosyal Ağlar Üzerine Küresel Ölçekte Yapılan Yayınların Değerlendirilmesi: Bilimetrik Bir Araştırma."

Abstract

Mobile social networks (MSN) have been becoming increasingly popular today, bringing not only the interaction of different users and platforms to an abnormal pace of information distribution and network development, but also different behavior patterns. This emerging paradigm presents new research fields for researchers. This study aims to evaluate the current development and trends of researches on MSN through scientometric analysis. For this purpose, this study examined 314 research articles on mobile social networks that are covered by Web of Science database during 2000-2018. Within the scope of analysis, several publication characteristics were used to evaluate the productivity, impact, and research performance of countries, journals, authors, and research institutions. In the light of findings, it is thought that this study provides useful information for researchers and practitioners and can also guide future studies.

Keywords

Mobil social networks, Social networks, Scientometrics.

Stokastik Aktör Bazlı Model Yardımıyla Sosyal Ağ Dinamiklerinin Belirlenmesi*

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Abstract

Sosyal ağlar, insan ilişkilerinin söz konusu olduğu her alanda karşımıza çıkmaktadır. Aile içi ilişkilerin düzenlenmesinde akrabalık ağları, sınıf içi ilişkilerin düzenlenmesinde arkadaşlık ağları, alıcı-satıcı etkileşiminde, tedarik zincirinin üyeleri arasında, yapısal rekabetin yaşandığı pazarlarda, firmalar düzeyinde işletmeler arasında bir anlaşma veya ittifak söz konusu olduğunda karşılaşılan iş ağları gibi birçok sosyal ağ yapısı bulunmaktadır. Sosyal ağlar doğaları gereği dinamik yapılardır ve farklı türde değişimlere sahne olurlar. Bireyler arasında kurulan bağlar zaman içerisinde güçlenerek gelişebilir veya bağlar zamanla çözülerek ilişki ansızın kesilebilir ve bitebilir. Aktör bazında yaşanan bu değişimler, aktörün ağdaki yapısal pozisyonunun ve diyadik özelliklerinin bir sonucu olarak düşünüldüğünde, farklı istatistiksel gösterimlerle ifade edilebilir. Çalışmada, ağda yaşanan değişimlerin matematiksel olarak gözlemlenmesi için stokastik aktör bazlı model kullanılmış ve bir arkadaşlık ağına ilişkin dinamikler tartışılarak, ağın yapısı irdelenmiştir.

Keywords

Sosyal ağ, Sosyal ağ analizi, Stokastik aktör bazlı model..

Turkish

Track

Digital Transformation

Track Chair

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Bio

Dr. Birgit Oberer is an Associate Professor for management information systems at Sakarya University, Business School, Sakarya, Turkey. Dr. Oberer's research expertise includes management information systems, innovation and technology management, Industry 4.0 as well as electronic government and its applications in companies, governments, and non-profit organizations. Some of her latest journal publications include 'Technology Management and the Change in the European Geodata market' and 'How to manage government? Innovation Through Open Government Data Portals', 'The Innovation Union Scoreboard - Helping Europe become more innovative', and 'I4.0 Connectivity: Smart Factory Communications'. Dr. Oberer serves as an invited reviewer for research projects for the ETH Zurich, one of the leading international universities for technology and the natural sciences. Dr. Oberer is Co-Editor of the international book series 'Enterprise and Business Management'.

Brief

Digital transformation is the integration of digital technology into all areas of business, fundamentally changing how organizations operate and deliver value to customers. It can be seen as an accelerating transformation concerning models, processes, competencies and business activities, to gain competitive advantages. The digital transformation means that digital usages enable new types of innovation and creativity in various domains. Digital transformation focuses on business innovation, customer innovation, technology innovation, sustainable one. There are some reasons that a business may undergo a digital transformation, the most likely reason is that they have to since it is a survival issue for many. With the evolving business markets, companies that want to succeed must understand how to apply technology to support strategical decisions and realize the visions. Although digital transformation might vary widely based on organizations' specific challenges and demands, there are a few constants, such as customer experience, culture and leadership, workforce enablement, operational agility and digital technology integration. Keeping up with the rhythm of technological change is essential for professionals, that requires a focus on lifelong learning approaches and continuous update of learning content, processes and delivery approaches to delivering education and training.

Paper

1. Transforming Literature-intensive Research Processes Through Text Analytics - Design, implementation and Lessons Learned
2. An Investigation of Online Shopping Habits of University Students: Gaziantep Province Case
3. Impacts of Electronic Record Management System on Business Processes: Manisa Celal Bayar University Case
4. Çalışma Koşullarına Bağlı Olarak İş Yerlerinde Çalışanların Siber Zorbalığa Maruz Kalma Düzeylerinin İncelenmesi
5. The Integrated Framework for the Examination of Airline Industry Evolution: Past, Present Analysis and Future Projections
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7. Avrupa Birliği Bilgi Politikası Belgelerinin İncelenmesi Üzerine Bir Çalışma
8. The Importance of Feature Selection Methods for the Error Prediction Process of a Digital Twin

Transforming Literature-intensive Research Processes Through Text Analytics - Design, implementation and Lessons Learned

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Abstract

The continuing growth of scientific publications raises the question how research processes can be digitalized and thus realized more productively. Especially in information technology fields, research practice is characterized by a rapidly growing volume of publications. For the search process various information systems exist. However, the analysis of the published content is still a highly manual task. Therefore, we propose a text analytics system that allows a fully digitalized analysis of literature sources. We have realized a prototype by using EBSCO Discovery Service in combination with IBM Watson Explorer and demonstrated the results in real-life research projects. Potential addressees are research institutions, consulting firms, and decision-makers in politics and business practice.

Keywords

Text analytics, Text mining, Literature review, Research process.

An Investigation of Online Shopping Habits of University Students: Gaziantep Province Case

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Abstract

E-commerce is a big platform and customers from every age like shopping from different online shopping sites. Spending habits and the way of shopping preferences of the customer profiles are important to be scrutinized for the sake of online shopping and e-commerce sites. The aim of this study was to examine online shopping habits of online shoppers in Turkey. The participants were 560 undergraduate students studying in the fall semester of 2016-2017 academic year in three universities in Gaziantep. Questionnaire was used as a data collection tool. Chi-square, one-way ANOVA and Pearson product moment correlation analyzes were conducted using Statistical Package for the Social Science (SPSS 22.0) to analyze data. The statistical results revealed that online customers' purchase preference were gender biased, and their lifestyles had an impact on online customers' monthly spending amounts as well. There was a statistically significant positive relationship between the amount of time and money spent on the Internet. According to the results, students in Gaziantep use Trendyol, Hepsiburada and Alibaba for online shopping. The products that mostly bought by online customers were clothing, stationery products, online tickets and electronic devices. In conclusion, the findings are compared with related literature and suggestions for online shopping sites are presented.

Keywords

Online shopping, Online customers, Shopping habits, E-commerce.

Impacts of Electronic Record Management System on Business Processes: Manisa Celal Bayar University Case

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Abstract

The aim of this study is to explain the transition process to Manisa Celal Bayar University (MCBU) Electronic Record Management System (ERMS) and compare the current situation with the previous situation and investigate the effect of this change on business processes. The previous situation refers to the documents prepared and presented to the physical environment. The present situation refers to the documents prepared and presented to the ERMS and the situation that the job follow-up is made from within ERMS. A survey is prepared to measure the changes in the business processes of the University from the eye of the users through the transition to the ERMS.

Keywords

Electronic record management system, Business process, Electronic signature.

An Investigation of Employees' Levels of Exposure to Cyberbullying in Workplaces Depending on Working Conditions*

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* Original language of this paper is *Turkish* and title is "Çalışma Koşullarına Bağlı Olarak İş Yerlerinde Çalışanların Siber Zorbalığa Maruz Kalma Düzeylerinin İncelenmesi."

Abstract

The purpose of this research is to measure the employees' levels of exposure to cyberbullying in workplace, depending on the working conditions. Survey method has been used in the research. For the collection of data, Workplace Cyberbullying Victimization scale developed by Kayman (2017), has been used. The population for this research is 176 enterprises which are still active in the Manisa Industrial Park (MIP). The sample size for this research consists of 457 employees selected from this population. IBM SPSS 20.0 statistical program has been used for analysing the data. In the study, Reliability Analysis, Factor Analysis, Independent Sample T-test, One Way ANOVA test have been performed in addition to descriptive statistics. As a result, it has been found that there is a significant difference between the situation of employees exposed to cyberbullying and the frequency of daily use of IT and working time; however, there is no significant difference between the situation of employees exposed to cyberbullying and department worked and the income levels of them.

Keywords

Cyberbullying, Cyber victimization, Cyberbullying tools.

The Integrated Framework for the Examination of Airline Industry Evolution: Past, Present Analysis and Future Projections

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Abstract

In the past, airline distribution process, which was between airline companies and customers, was under the control of intermediaries such as GDSs. After the advancement of internet technology in airline distribution, online players emerged, and airlines established their websites to bypass the intermediaries. Since new technologies have still been emerging to meet the key factors such as customer expectations, technological innovations and technical insufficiency of the intermediaries in distribution industry, the airline distribution will continue to evolve in the next decade. In this study, we aimed to understand how the industry evolved according to the emerged players and developed technologies by utilizing secondary data (relevant literature and industry reports). As a result, we constituted an integrated framework for analyzing the industry in timeline including three phases (past, present, future) and from four aspects (market forces, technology trends, ecosystem players, ecosystem canvas).

Keywords

Airline distribution industry, Market pull, Industry forces, Airline ecosystem, ecosystem canvas.

Dijital Dönüşümün İstihdama Etkisi: Mesleki Açıdan Fırsatlar ve Tehditler*

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* Original language of this paper is *Turkish* and title is "Dijital Dönüşümün İstihdama Etkisi: Mesleki Açıdan Fırsatlar ve Tehditler."

Abstract

Dijital dönüşümün, rutin işlemlerin otomatize edilmesi ile birlikte bazı mesleklerin önümüzdeki yıllarda yok olmasına neden olması, birçok sektörde istihdamın azalması, aynı zamanda oluşacak yeni ihtiyaçlar nedeni ile yeni meslekler ve yeni istihdam alanlarının oluşmasına yol açması öngörülmektedir. Beden gücü kullanılarak düşük gelir elde eden bir işgücü yapısı yerine, nitelikli, eğitim ve gelir düzeyi yüksek bir iş gücü yapısının oluşması söz konusudur. Bu çalışma kapsamında, dijital dönüşümün istihdama etkisi, yok olacak ve yeni oluşacak meslekler ile yeni çalışma alanları incelenmiştir.

Keywords

Dijital dönüşüm, İstihdam, İşgücü, İnsan kaynakları yönetimi.

Turkish

A Study on Examination of European Union Information Policy Documents*

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* Original language of this paper is *Turkish* and title is "Avrupa Birliği Bilgi Politikası Belgelerinin İncelenmesi Üzerine Bir Çalışma."

Abstract

Recent developments in economy and technology transformed the society into "knowledge" society from "industry society and brought rapid economic globalisation period. Information Society. Basing upon Information and Communication Technologies, Information Society is a new model reflecting the qualitative changes in human activities in terms of Professional, private and organizational aspect. Transition to knowledge society and knowledge-based economy is essentially necessary to take advantage of digital technologies and benefits of Internet in Europe, create new employment fields and enable social development. It is significamt key factor for EU to strenghten its position as one of the leading actors of the world. Activities and facilities planned to be executted for social and community improvement have been mentioned in information policy documents of European Commission and European Parliament.

Keywords

European Union, European Union information policy documents, Information society, E-Europe.

The Importance of Feature Selection Methods for the Error Prediction Process of a Digital Twin

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Abstract

The idea of building a digital twin is related to simultaneously creating a model that becomes a transportation vehicle for data within the information life cycle. In order to create such model, there should be well-defined feature space. Because of the "curse of dimensionality", while the complexity of the model exponentially increases, the accuracy rate of the model decreases. In this study, the importance of the methods chosen for dimensionality reduction while creating a model setup, which can predict the error on a digital twin, is presented with an exemplary implementation. Four different dimension reduction methods, PCA, Conventional PCA, WPCA, and Mars, were applied to dataset with 89016 observation values and 590 different attributes, in order to predict error via Non-linear SVM with Polynomial kernel. According to results WPCA and MARS methods, predicted the error more successfully than others. As a result, the feature extraction solutions, that the methods provide, affected the performance of the designed models.

Keywords

Data science, Digital twin, Feature selection, PCA, SVM.



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