PROCEEDING BOOK

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Venue: Mercure Hotel Amsterdam City

Date: November 30- December 01, 2019

Institute of
Applied Sciences
& Engineering Technology

IAET International Conference on Image Processing, Computer Science, Design, Engineering, Applied Sciences & Information Technology (ICDE)

Conference organized by:

Institute of
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& Engineering Technology

This conference is dedicated to educators all over the world and to the members of the Institute of Applied Sciences and Engineering Technology (IAET) whose passion for teaching, learning, research, and service are helping to transform the academy in many positive ways.

Mission, Vision, and Core Values

Research & Innovation, Knowledge exploration and sharing, nurturing novel ideas, addressing challenges to Applied Sciences and Engineering Technology.

Lead the scholarly community through global communication and nurturing innovative ideas, developments and experiments in the field of Applied Sciences and Engineering Technology

We try to give our members a positive network/relation building experience by: 1) We have team building/socializing/gaming sessions where the members mix and talk and share with each other in an informal environment. 2) We arrange various customized events and capacity building activities for higher education institutions. 3) Dedicated and committed team to support individual and corporate members of our scholarly community.

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Welcome Message

The Institute of Applied Sciences and Engineering Technology (IAET) welcomes you to the IAET International Conference on Image Processing, Computer Science, Design, Engineering, Applied Sciences & Information Technology (ICDE)

We are happy you decided to join your colleagues from around the world to explore innovative technologies, pioneering pedagogical strategies, and a sampling of international collaborations that are being used to engage and retain students, researchers and Scholars in the new millennium.

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Scientific Committee

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Acknowledgements

The organizing committee would like to thank all those people who were involved in making the conference a success. A great amount of planning and organizing is required to hold a successful conference, so we are indebted to those who volunteered their time and energy.

We want to thank all the members of the Institute of Applied Sciences and Engineering Technology (IAET) who volunteered their time to help organize the conference.

ENGINEERING TECHNOLOGY

Acoustical Engineering Aerospace Engineering, Agricultural Engineering Biological Engineering and Sciences, Biological Systems Engineering Biomedical Engineering, Bioprocess Engineering Biotechnology, Building Services Engineering Chemical Engineering, Industrial Engineering Information Engineering, Informational Technology Manufacturing Engineering and Technology, Materials Engineering Mechanical Engineering, Mechatronics Nanotechnology and Nanoengineering, Naval Engineering Nuclear Engineering, Technology for Cloud Computing Technology for Community, Technology for Digital Age Technology for Human Use, Technology for Learning Civil Engineering, Computer Engineering Current issues and challenges in Engineering, Electrical Engineering Electronic Engineering, Energy Engineering Environmental Engineering, Food Engineering Genetic Engineering, Geotechnical Engineering Ocean Engineering and Technology, Optical Engineering Petroleum Engineering, Power Engineering Process Engineering, Resource Engineering Sensing Technology, Structural Engineering Systems and Software Engineering, Technology for Big Data Textile Engineering, Thermal Engineering Transport Engineering, Web Engineering Vehicle Engineering.

APPLIED SCIENCES

Artificial Intelligence, Architecture, Astronomy, Biological Sciences, Botany, Chemistry, Design, Earth Science, Ecology, Marine Science, Physics, Space Sciences, Life sciences, Computer Sciences, Logic, Mathematics, Statistics, Systems Science, Electrical Engineering, Information, Technology, Industrial Engineering, Mechanical Engineering, Applied Physics, Health Sciences and Medicine, Ceramic Engineering, Computing Technology, Electronics, Energy, Environmental Engineering Sciences, Engineering physics, Environmental Technology, Fisheries Science, Forestry Science, Materials Engineering Micro technology, Nanotechnology, Nuclear, Technology, Optics, Zoology Transportation

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Conference Schedule

IAET International Conference on Image Processing, Computer Science, Design, Engineering, Applied Sciences & Information Technology (ICDE)

Mercure Hotel Amsterdam City
November 30- December 01, 2019

ICDE-2019 **Saturday, November 30- December 01, 2019**

Day-at-a-Glance

09:30 am - 09:40 am	Registration and Kit Distribution
09:40 am - 09:50 am	Introduction of Participants
09:50 am - 10:00 am	Inauguration and Opening address (*Mr. Bashar*)
10:00 am - 10:30 am	Tea & Grand Networking Session/ Group Photo

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Session 01 — 10: 30 am - 12:00 pm

Track 01: Business, Economics, Social Sciences and Humanities

Product Design and Development Using Quality Function Deployment

Speaker: Dr. Jitendra Sharma — Professor - Operations IMT, Nagpur

Feasibility of Monetary Union In The East African Community: The GPPP Approach

Speaker: Ephrem Habtemichael Redda —— North-West University, South Africa

Peer Pressure and the Use of Drugs among University Students

Speaker: Ph.D. Mirjana Radetic-Paic — Faculty of Educational Sciences,Juraj Dobrila University of Pula, Croatia

Cartel Sustainability and Cost Shocks

Speaker: Hyunjoon Cho — Chadwick International School Korea, Incheon, South Korea

Peer Pressure and Adolescents Problem Behavior

Speaker: Tinatini Bandzeladze — Tbilisi State University, Georgia

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Session 02 12: 00 pm - 12:45 pm

Track 02: Engineering, Technology & Applied Sciences

Feasibility Study for Sensing Sugarcane Sweetness on the Elevator Conveyor Using Multi-Spectral Camera

Speaker: Kittisak Phetpan— Department of Engineering, King Mongkuts Institute of Technology Ladkrabang, Prince of Chumphon Campus, Chumphon, Thailand

Automatic Assessment System Applied on Functional Movement Screening in Predicting Injury Rates on Sports for Athletes and Non -athletes

Speaker: Belkadi Adel— Laboratory of Optimizing Research Programmes on Physical and Sports Activities, Institute of Physical Education and Sport, University of Mostaganem, Algeri

Closing Ceremony & Lunch

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Conference Attendees

The following scholars/practitioners/educationist who don't have any paper presentation, however they will attend the conference as delegates & observers.

Participant Name: Fatma Al-Yousuf

Reference ID: PMSS-119-18

Affiliation: Legal Counsel, Legal Department Dubai World Trade Centre

Participant Name: Hebah Al-Hammadi

Reference ID: ICDE-19-P11

Affiliation: Dubai Aviation Engineering Projects

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IAET International Conference on Image Processing, Computer Science, Design, Engineering, Applied Sciences & Information Technology (ICDE)

ICDE-2019 Sunday, November 30- December 01, 2019

Conference second day is reserved for participants own tourism activities.

Conference Abstracts

Track 1: Business, Economics, Social Sciences and Humanities

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Product Design and Development Using Quality Function Deployment

Dr. Jitendra Sharma*
Professor - Operations IMT, Nagpur

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Over the years, the challenge of product development has moved from achieving product functionality to efficiently fine-tune the functionality of the product to the ever-changing requirements of the customers. This twin pressure of customer satisfaction and cut-throat market competition has made the organization to introduce and innovate products more quickly and efficiently than ever before. Product must be designed so that they quickly deliver the quality and functionality that are demanded by the customers, have the attributes to beat the market competition and at the same time - generate the desired profit for the organization. An approach used to facilitate product design and development by analyzing and projecting customer requirements into product attributes is known as Quality Function Deployment (QFD). QFD is an innovative approach bringing quality - as demanded by the customer-upstream into the product development. The aim of the study is to develop product development model using QFD to assist designers and managers in evaluating companies decision making process with respect to product design and development. The research work attempts to provide both flexibility and performance to support QFD tasks and to act as the base for a high-end computer system that is effective and efficient in decision making.

Index Terms: Customer, Product design, Product development, QFD

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Feasibility of Monetary Union In The East African Community: The GPPP Approach

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The Association of African Central Bank Governors, in 2003, announced that it would work for a single currency and common central bank for Africa by 2021. Many regional trading blocs and economic communities are working towards this grand objective. The focus of this paper is on the East African Community (EAC) which comprises Burundi, South Sudan, Rwanda, Kenya, Uganda and Tanzania. The study utilises the generalised purchasing power parity (GPPP) to assess the feasibility of a monetary union in the EAC region. The key question addressed in this study is: Does the GPPP hold in the EAC region? Econometric techniques such as unit root test, Johanson's and Pedron's cointegration test were used to answer this pertinent research question. The presence of cointegrating vector(s) in the Johanson's constegration test is supportive of an optimum currency area (OCA), and it can be interpreted as similarities of fundamental macroeconomic factors that derive real exchange rate in the EAC region. In other words, the GPPP does in deed hold in the EAC region. The Pedron's cointegration test also provided supportive evidence of the existence of long-run relationship between the tested variables, namely real exchange rate, nominal exchange rate and consumer price index (CPI) providing further support the feasibility of monetary union in the region. The results of the vector error correction model (VECM) indicated some differences in the size of the coefficients of the normalised long-run cointegration equation. This suggests that any change/shock/disequilibrium of real exchange rate in the region may cause unintended currency flow from one country to the other in the short-run constraining the possibility of an effective and efficient monetary union. Therefore, it is recommended that member countries should harmonise monetary and fiscal policies well ahead of the implementation of the monetary union the region.

Index Terms: East African Community (EAC), EAMU, generalised purchasing power parity, optimum currency area

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Peer Pressure and the Use of Drugs among University Students

Mirjana Radetic-Paic*
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Peer relationships have a key role in the adolescence period with consequences such as the adolescents need to do all the things done by their peers, and this can be seen in the way they behave based on decisions they make. Peer pressure, in a negative context, can be done in various ways that benefit from the characteristics of growing adolescents, who are often insecure and need a sense of acceptance and belonging. Based on the aforementioned, the aim of this research is to determine the correlation between the use of drugs by which they want to experience what the rest of the peer group members already have and the characteristics of peer pressure among university students along with their predictive value. The purpose of the research is related to planning adequate interventions for students who have difficulties to oppose negative peer pressure and other difficulties occurring in peer relationships, as well as for students who have problems with the abuse of addictive substances in the widest sense. Results show that the items When I hang out with people who take drugs I become tempted to try them myself, My companions influence my sexual behaviour and I am afraid I will appear stupid in front of my companions due to my opinion or behaviour mostly represent a statistically significant contribution to the decision about using drugs to experience the feeling which the rest of the peer group has. The value of the results, besides obtaining valuable new indicators based on scientific research methods, is that they offer guidelines for prevention and intervention in cases of various peer problems and problems with the abuse of addictive substances.

Index Terms: Drug Abuse, Peers, Pressure, University Students

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Cartel Sustainability and Cost Shocks

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This paper considers responses to cost shocks that differ from the classical economic framework. The standard response to a cost decrease is a weak increase in profits depending upon the level of competition in an industry. We provide evidence of the opposite occurring in the airline industry. We conjecture that this is due to the oligopoly structure of the airline industry. In particular, a decrease in cost may lead to increased competition and therefore decrease profits. We model this situation using an infinitely repeated game and solve for equilibria which jointly maximize profits. Then, a decrease in cost has two indirect effects on the collusive environment. First, it decreases the effectiveness of punishment by changing the optimal stage game quantity. Second, it increases the payoff from deviating to a higher quantity. We also provide results under which a general pricing function leads to a unique maximal collusive equilibrium.

Index Terms: Behavioral Economics, Cost Shocks, Profits, Economic Equilibrium

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Peer Pressure and Adolescents Problem Behavior

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The aim of this study is to assess the relationship between peer influence and adolescents problem behavior. According to the research hypothesis peer influence on adolescents problem behavior is mediated by the moral disengagement that refers to tolerant attitude toward deviant behavior. This study has a correlational design. Data were collected by self-reported questionnaires. The sample consisted of 150 participants aged 14 to 18. Sixty adolescents were in conflict with the law, and the other 90 adolescents who did not have such a contact with the legal system. The results of the research show that peers problem behavioral model is the most important statistically significant predictor of adolescents problem behavior. Correlational and regression analyses also show that peer control of problem behavior is negatively correlated to adolescents problem behavior. On the basis of mediation analysis revealed that moral disengagement is statistically significant mediator variable in the relationship between peer control and problem behavior. The intensity of the relationship between peer control and problem behavior decreases if adolescents tolerance attitude toward deviant behavior increases. The results of the study emphasize the importance of a multi-system approach to the prevention of adolescents problem behavior. Multi-system approach is focused not only on adolescents individual characteristics, but also considers importance of social factors, particularly, peers and family in the process of preventing of deviant behavior.

Index Terms: Peer Pressure, Adolescents Problem Behavior, Prevention of Deviant Behavior, Moral Disengagement

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Conference Abstracts

Track B: Engineering, Technology & Applied Science

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Feasibility Study for Sensing Sugarcane Sweetness on the Elevator Conveyor Using Multi-Spectral Camera

Kittisak Phetpan [1], Vasu Udompetaikul [2], Panmanas Sirisomboon [3]
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This study is a part of the research project launching the development of a real-time sugar content monitoring system for the sugarcane harvesters. The study aims to evaluate the possibility of using Multi-spectral camera as a sensor for monitoring the sugar content of sugarcane billets being transferred on the elevator conveyor. A prototype online detection system, fabricated for experimentation, was used in this study. Four 50W tungsten halogen lamps were used as a light source whereas a visible and shortwave near-infrared (vis/SW-NIR) spectrometer was used to collect the spectral responses reflecting from the sugarcane moving at a constant speed of 2 m/s. The spectral collection was done across wavelengths of 350-1100 nm. Five peaks including 475, 560, 668, 717 and 840 nm were used to simulate the response of Blue, Green, Red, RedEdge and NIR bands in the Multi-spectral camera. Two datasets consisted of all 5 peaks and 2 peaks (717 and 840 nm) were modeled with corresponding Soluble Solids Content (SSC) values using Partial Least Squares (PLS) regression. The model performance was assessed using an independent testing set. The results show that the use of all 5 peaks to develop the model can explain 61.9% of data variance in the SSC values and be found to display a root mean square error of cross-validation (RMSECV) of 0.46 °Brix. The performance of testing set prediction gave the root mean square error of prediction of 0.48 °Brix. For modeling with 717 and 840 nm, only 56.1% of data variance in the SSC values can be explained by the model resulting in the RMSECV and RMSEP of 0.49 and 0.46 °Brix, respectively. Based on the results, the Multi-spectral camera may only be used for rough monitoring the sugar content of sugarcane.

Index Terms: Sugarcane, Sugar Content, Multi-Spectral Camera, Elevator Conveyor, Real-Time Monitoring System

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Automatic assessment System Applied on Functional Movement Screening in predicting injury rates on sports for Athletes and non -athletes

Belkadi Adel [1], Benchehida Abdelkader [2], Zenati yassine [3], Cherara Lalia [4], Sebbane Mohamed [5]
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In recent years, the Functional Movement Screen (FMS) has been used to assess the habits and quality of athlete movements as well as to predict their injuries. However, FMS scores are evaluated by manual observation. Therefore, the objective of this study is to develop an automatic evaluation system, to adopt a mathematical model of minimum complexity and to have evaluation control conditions to ensure the attribution of a precise score of the FMS. A camera is used to capture the angles of the body, respectively. In addition, one of the researchers manually loaded the recorded image into MATLAB mathematical calculation software. The results showed a moderate to high positive correlation between the scores of the first Deep Squat FMS test (p ¡0.05). Compared with the three different scores, there were significant differences between the angle of the hip and ankle, hip angle and knee of the split line hedge and the step angle hedge (p ¡ 0.05). In conclusion, the advantage of the automatic evaluation system and the attribution of a precise score applied to the FMS system is the automatic recognition of images and the labeling, the fast and precise follow-up of the angle and data with exported and inexpensive material. The automatic evaluation system and the scoring FMS can help coaches and physiotherapies experts to assess the bilateral limb, torso or asymmetric deficit in various sports.

Index Terms: Functional Movement Screen, Injury, Assessment System

Upcoming Events

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