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Welcome Remarks

On behalf of IEDRC, we welcome you to Honolulu, Hawaii, USA to attend 2018 International Conference on Big Data and Education (ICBDE 2018) and 2018 6th International Conference on Management and Education Innovation (ICMEI 2018). We’re confident that over the three days you’ll get theoretical grounding, practical knowledge, and personal contacts that will help you build long-term, profitable and sustainable communication among researchers and practitioners working in a wide variety of scientific areas with a common interest in Big Data, Education, Management and Education Innovation.

The conferences received submissions from nearly 20 different countries and regions, which were reviewed by international experts, and about 60% papers have been selected for presentation and publication.

We hope that your work and that of your institution or company will be enhanced both by what you learn and by those with whom you connect over the next 3 days. Our field is enriched by the dialogue among colleagues from around the world which occurs during presentation sessions as well as informal conversations. We hope this is a memorable, valuable, and enjoyable experience!

On behalf of conference chair and all the conference committee, we would like to thank all the authors as well as the Program Committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference a successful event. We hope that all participants and other interested readers benefit scientifically from the proceedings and also find it stimulating in this process. Finally, we would like to wish you success in your technical presentations and social networking.

Once again, thanks for coming to this conference. We are delegate to higher and better international conference experiences. We will sincerely listen to any suggestion and comment; we are looking forward to meeting you next time.

Sponsored by

IEDRC.org
Conference Venue

Hilton Waikiki Beach

www.hiltonwaikikibeach.com

Waikiki was traditionally used as a retreat for Hawaiian royalty in the 1800’s. Kamehameha IV, Kamehameha V, Lunalilo, Kalakaua, Liliuokalani and Princess Kaiulani were amongst the royalty that visited the area. They would enjoy their time by going horseback riding, hosting canoe races and by practicing their long board surfing skills. Foreign visitors started to visit Waikiki is the 1830s.

MOMENTS FROM WAIKIKI BEACH

Our Waikiki, Hawaii hotel’s perfect location is moments from exciting attractions, alluring cruises, and renowned shopping and dining. We are the sparkling jewel among all the Waikiki hotels, where nearby attractions include Kuhio Beach, Queen Beach, Honolulu Zoo, 500-acre Kapiolani Park, Diamond Head and the International marketplace (a shopper’s bonanza located in the heart of Waikiki). Our Waikiki Beach hotel is also convenient to the Bishop Museum, Iolani Palace, USS Arizona Memorial and many other Honolulu attractions and is only nine miles from Honolulu International airport (HNL).

Many attractions are within walking distance and hundreds more within driving distance. The Hilton Waikiki Beach is your perfect choice for your Hawaiian getaway.

FROM: Honolulu International Airport
TO: 2500 Kuhio Avenue Waikiki, HI 9815

From the Honolulu International Airport (HNL)

Distance from hotel: 9.32 mi.
Drive time: 18 min.

Take H1 East toward Honolulu
Take the Punahou Street exit (#23)
Turn right onto S. Beretania Street
Turn left onto Kalakaua Avenue
Turn left onto Kealohilani Avenue
Turn left onto Kuhio Ave.
The Hilton Waikiki Beach is located on the left corner of Kuhio Avenue and Liliuokalani Street offering valet-only parking.

**Ground Transportation Options**

**Taxi:**
Service is available on the center median fronting the terminal baggage claim areas. The fare from the airport to Waikiki during non-rush hour periods is approximately $30.00 – $40.00.

**The Bus:**
Public transportation available through TheBus which has been recognized twice as America’s Best Transit System. For pickup times try DaBus app.

**SpeediShuttle Airport Transportation:**
SpeediShuttle is the only authorized on demand shuttle service provider at the Honolulu airport and has greeters stationed throughout the terminals. SpeediShuttle’s Mercedes-Benz shuttles are equipped with GPS technology, which allows the staff to manage the service on a timely basis and also has kept them in the highest ranking for safety in the industry. SpeediShuttle prides itself in providing every guest with the best customer service. So sit back and enjoy a relaxing ride with SpeediShuttle to the Hilton Waikiki Beach.

Shared Ride Starting at $14.55 (Arrival) and $13.60 (Departure)

Exclusive Shuttle $128.07 (Arrival) and $120.85 (Departure) | Lei Greeting is also available.
Instructions for on-site Registration

(1) Please print your registration form before you come to the conference.
(2) You can also register at any time during the conference.
(3) Certificate of Participation can be collected at the registration counter.
(4) Your paper ID will be required for the registration.
(5) The organizer won't provide accommodation, and we suggest you make an early reservation.

Instructions for Oral Presentations

Devices Provided by the Conference Organizer:
Laptops (with MS-Office & Adobe Reader)
Projectors & Screens
Laser Sticks

Materials Provided by the Presenters:
Power Point or PDF Files (Files should be copied to the conference laptop at the beginning of each session)

Duration of each Presentation (Tentatively):
Regular Oral Presentation: about 15 Minutes of Presentation and Q&A
Keynote Speech: 30 Minutes of Presentation, 5 Minutes of Q&A

Instructions for Poster Presentation

Materials Provided by the Conference Organizer:
The place to put poster

Materials Provided by the Presenters:
Home-made Posters
Maximum poster size is A1
Load Capacity: Holds up to 0.5 kg

Best Presentation Award

One Best Oral Presentation will be selected from each presentation session, and the Certificate for Best Oral Presentation will be awarded at the end of each session on March 10, 2018

Dress Code

Please wear formal clothes or national representative clothing.

Important Note:
The time slots assigned in the schedule are only tentative. Presenters are recommended to stay for the whole session in case of any absence.
Introductions for Publications

All accepted papers for the Paris conferences will be published in those journals below.

**2018 International Conference on Big Data and Education (ICBDE 2018)**

International Conference Proceedings Series by ACM, which will be archived in the ACM Digital Library, and sent to be indexed by EI Compendex and Scopus and submitted to be reviewed by Thomson Reuters Conference Proceedings Citation Index (ISI Web of Science).

![ICPS](ICPS.png)


ISSN: 2010-3654  
DOI: 10.17706/IJEEEE  
Indexed by: Engineering & Technology Digital Library, Google Scholar, Electronic Journals Library, QUALIS, ProQuest, EI (INSPEC, IET)

**6th International Conference on Management and Education Innovation (ICMEI 2018)**

![JOEBM](JOEBM.png)

**Journal of Economics, Business and Management (JOEBM)**

ISSN: 2301-3567  
DOI: 10.18178/JOEBM  

![IJIET](IJIET.png)

**International Journal of Information and Education Technology (IJIET)**

ISSN: 2010-3689  
DOI: 10.18178/IJIET  
Abstracting/ Indexing: EI (INSPEC, IET), Electronic Journals Library, Google Scholar, Crossref and ProQuest.
Professor Liz Bacon BSc, PhD, CEng, CSci, CITP, FBCS, PFHEA, MACM is a Deputy Pro-Vice-Chancellor at the University of Greenwich in London, with a University wide remit leading the development of technology enhanced learning and pedagogic research. She was President of BCS, The Chartered Institute for IT, in the year 14-15 and is a past Chair of the BCS Academy of Computing, and the CPHC (Council of Professors and Heads of Computing) national committee. Liz is a Professor of Software Engineering with over a hundred publications and a Co-Director of the eCentre research group. She has been involved in several EU research projects, including being Principal Investigator and Project Coordinator for two EU FP7 projects in the recent past. She is an experienced systems designer and developer and her research interests include computing policy, smart systems, security and technology enhanced learning (TEL). Within TEL, she has applied her research in software engineering, artificial intelligence and security to a range of application areas such as crisis management and eHealth, focusing on: smart games-based learning environments; metacognition and learning strategies; adaptable, adaptive and personalised systems; and the use of social media in online learning, all supported by cloud technology. She also researches, publishes, and is a regular international speaker, on the supply and demand of e-skills to the IT industry. Liz is passionate about the development of her discipline and keen to inspire more people to choose computing as a career, particularly women.

Title: How the Intelligent Use of Big Data is Predicted to Transform Learning

Abstract: The intelligent analysis of big data is already transforming society at a rapid pace however, in the education space, and particularly in models of education which have remained largely unchanged for decades, its impact has been minimal to-date. The increasing use of artificial intelligence in society, predicts the need for regular mass personalised education, as more jobs become automated, and many would argue we are on the cusp of a significant change in the how we teach and learn. This talk will discuss forthcoming changes in education due to big data, some of the research in this area and will conclude with some predictions on the direction of travel, and the ethical issues that may result from these changes.
Jin Wang is a Professor of Operations Research in the Department of Mathematics at Valdosta State University, USA. He received his Ph.D. degree from the School of Industrial Engineering at Purdue University in 1994. His research interests include Operations Research, Stochastic Modeling and Optimization, Supply Chain Management, Monte Carlo Simulation, Computational Finance, Portfolio Management, and Applied Probability and Statistics. Currently, he is working on Big Data and Data Mining fields. He has more than 28 years collegiate teaching experience in the field of quantitative methods and statistics at Purdue University, Florida State University, Auburn University, and Valdosta State University. Dr. Wang has been active in professional research activities. He has authored articles for publication in referred journals and conference proceedings. He has been active in INFORMS, IIE, and the Winter Simulation Conference and invited to give presentations, organize and chair sessions at national meetings. He has participated as a principal investigator in several research projects funded by federal and industrial agencies, including the National Science Foundation, General Motors, and the National Science Foundation of P.R. China. He was invited as a panel member at the National Science Foundation Workshop. Dr. Wang also served as a consultant for financial firms. His analytical Monte Carlo method using a multivariate mixture of normal distributions to simulate market data has made a great impact in education and the finance industry. This algorithm was selected as a graduate-level research project topic for many schools, such as, Columbia University Management Department, Carnegie Mellon University Economics and Finance Department, Tilburg University in Holland, Technische Universitaet Munich in Germany, Imperial College in London. This method was also implemented in many financial companies, such as, Zurcher Kantonal Bank, IRQ, Zurich Switzerland, Klosbachstrasse, Zurcher, Switzerland, Norsk Regnesentral in Norway, Cutler Group, L.P., Altis Partners (Jersey) Limited, Windham Capital Management, LLC.

**Title: Understanding the Big Data**

**Abstract:** In the big data era, data is everywhere. Big data can be described by three characteristics: volume, variety, and velocity. The new technology has enabled us to measure an increasing volume and variety of variables. One of challenges is how to best summarize, display, and analyze the big data efficiently. In 1901, British mathematician Karl Pearson introduced principal components to use a low-dimensional summary to best describe a high-dimensional dataset. This method has new applications in image compression, face recognition, ranking, clustering, community detection … In this talk, we will focus on mathematical approaches to big data analysis based on computational linear algebra. Applications include PageRank, MapReduce, Spectral Clustering, Optimization, and Principal Component Analysis.
Murali Krishnamurthi received a bachelor’s degree in mechanical engineering in 1978 from University of Madras, a master’s degree in industrial and systems engineering in 1982 from Ohio University, and a doctorate in industrial engineering in 1988 from Texas A&M University.

He is Professor of Industrial and Systems Engineering and Permanent Provost for Faculty Affairs at Northern Illinois University in DeKalb, Illinois, U.S.A. His teaching and research interests include project management, information systems, system simulation, optimization techniques, faculty development, and distance learning.

Dr. Krishnamurthi is a member of the American Association for Engineering Education (ASEE) and the Professional and Organizational Development (POD) Network. In 2011, he received the Presidential Teaching Professor Award and the Deacon Davis Diversity Award at Northern Illinois University.

Title: *Addressing Academic Integrity in Education and Innovation*

Abstract: Globalization has given rise to new opportunities for innovations in education and technology. However, globalization has also exacerbated some of the challenges related to integrity in the creation, sharing and consumption of information by a worldwide community of educators, students, institutions, and society, as a whole. Concerns of integrity have a broader impact ranging from personal to global markets for goods and services. Academic institutions have been exploring ways to engage faculty in developing new tools and techniques to promote academic integrity in education and innovation. This keynote presentation will cover faculty, students, and institutional perspectives on academic integrity, what one institution has done to provide faculty with tools to promote academic integrity in teaching and learning, results and lessons learned from that experience, and how others can extend these ideas to address academic integrity in education and innovation.
Dr. Boyd Bradbury is a professor of Curriculum & Instruction and Educational Leadership at Minnesota State University Moorhead (MSUM). He is an honors program graduate, and he earned a BA from Bemidji State University in Bemidji, Minnesota, with a major in Spanish, minors in philosophy and anthropology, and an emphasis in international studies in 1988. He earned a MAT in Spanish and an Ed.S. from Mankato State University in Mankato, Minnesota in 1991 and 1996, respectively. He completed doctoral work at the University of Minnesota—Twin Cities, and he earned a Ph.D. in General Education through Capella University in 2005.

As part of his responsibilities at MSUM, Dr. Bradbury coordinates the Doctor of Education degree. Dr. Bradbury has been at MSUM since 2004 in some capacity, where he has served as the Dean of the College of Education and Human Services and Graduate Studies. Dr. Bradbury received the Bemidji State University Outstanding Alumni Award in 2002.

Prior to joining the faculty at MSUM, Dr. Bradbury served more than seven years as the superintendent of schools at Waubun-Ogema-White Earth Community Schools in Waubun, MN. Prior to serving as superintendent, Dr. Bradbury was a high school Spanish teacher and secondary principal.

Dr. Bradbury conducts research on a regular basis, and he presents at regional, state, national and international levels. Dr. Bradbury served as the principal investigator and project director of the study entitled Education and Related Services on the White Earth Indian Reservation, which was published in 2012. Recent publications include The Mirage of Educational Equity among Involuntary Minorities and an Involuntary Majority: A Comparison of Educational Systems Serving Indigenous Populations in the United States and South Africa and The Impact of Pedagogical Dissonance and Associated Resilience within a Foreign Sociocultural Context of Teaching Abroad. In 2017, Dr. Bradbury served as a visiting scholar at Belarus National Technical University in Minsk, Belarus, where he focused on fundamental educational principles and instructional approaches for non-English speaking students in the United States within the context of an increasingly diverse society and quality online instruction.

**Title:** Growing Graduate Enrollment through Quality Online Programs: A Mutually Beneficial Partnership between Students and the Higher Education Institution

**Abstract:** Technology is an increasingly pervasive force, and it has opened educational possibilities for students who otherwise would not have been able to take course work due to geographical isolation or professional and family commitments. This study utilizes a mixed methods approach to examine significant growth within online graduate programs at a public university in the Midwest of the United States.
States. Results of the study reveal the online platform of degree programs as a major factor for the growth of graduate programming. In addition, the study provides insight regarding the benefits of courses that were certified through Quality Matters and those that subscribe to instructional design standards to establish course uniformity.
## Conference Time Schedule

### Day 1 (March 9): Registration Only

<table>
<thead>
<tr>
<th>Lobby</th>
<th>10:00-17:00</th>
<th>Registration &amp; Conference materials collection</th>
</tr>
</thead>
</table>

### Day 2 (March 10): Conference

| Hawaii 1 & 2 | 08:50-11:55 | Opening Remarks  
**Prof. Jin Wang**  
Valdosta State University, USA |
|-------------|-------------|------------------------------------------------|
|             | 08:55-09:35 | Keynote Speech 1  
**Prof. Liz Bacon**  
University of Greenwich, UK  
*Title: How the intelligent use of big data is predicted to transform learning* |
|             | 09:35-10:15 | Keynote Speech 2  
**Prof. Murali Krishnamurthi**  
Northern Illinois University, USA  
*Title: Addressing Academic Integrity in Education and Innovation* |
|             | 10:15-10:35 | Coffee Break & Photo Session |
|             | 10:35-11:15 | Keynote Speech 3  
**Prof. Boyd L. Bradbury**  
Minnesota State University Moorhead, USA  
*Title: Growing Graduate Enrollment through Quality Online Programs: A Mutually Beneficial Partnership between Students and the Higher Education Institution* |
| Kauai Room  | 11:15-11:55 | Keynote Speech 4  
**Prof. Jin Wang**  
Valdosta State University, USA  
*Title: Understanding the Big Data* |
<p>| Kauai Room  | 11:55-13:00 | Lunch |</p>
<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Session</th>
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</thead>
</table>
| Hawaii Room I | 13:00-19:00   | **Session 1** (12 papers)  
Theme: Data Engineering  
Session Chair: Prof. Jin Wang |
|          | 13:00-16:00   |                    |
|          | 16:15-19:00   | **Session 3** (11 papers)  
Theme: Education and Education Management  
Session Chair: Prof. Freimut Bodendorf |
| Kauai Room | 16:00-16:15   | Coffee Break       |
| Hawaii Room II | 13:00-18:45  | **Session 2** (12 papers)  
Theme: Algorithm and Information Technology Application  
Session Chair: Prof. Liz Bacon |
|          | 13:00-16:00   |                    |
|          | 16:15-18:45   | **Session 4** (10 papers)  
Theme: Project and Business Management  
Session Chair: Assoc. Prof. Daniel C. W. Tsang |
| Kauai Room | 19:00-21:00   | Dinner Banquet     |

**Day 3 (March 11): One Day Tour**

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<tr>
<th>Location</th>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Pick up at Conference Hotel Lobby</td>
<td>8:30-17:00</td>
<td>City Visit</td>
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</table>

*Note: This is only available for the participants who registered the one day tour.*
Authors’ Presentations Review

Session 1: Data Engineering

DA0008: Visualization and Analytics Tool for Multi-dimensional Data
   
   **David Jesenko, Matej Brumen, Niko Lukač, Borut Žalik, and Domen Mongus**

DA0009: Big Data Opportunities for Disease Outbreaks Detection in Global Mass Gatherings
   
   **Sultanah M. Alshammari and Armin M. Mikler**

DA0005: Classification of Dementia Based on Over-Sampling Approach and Decision Tree
   
   **Chiu-Shu Pan, Chi-Wei Wang, Meng-Hsiun Tsai, Cheng-Bang Kuo, and Cheng-Hsuan Kuo**

DA0023: A Method for Big Data Analysis of the impact of Economic and Social Events on Japanese Stock Prices
   
   **Koki Kyo**

DA0034: The 10 Vs, Issues and Challenges of Big Data
   
   **Nawsher Khan, Mohammed Alsaqer, Habib Shah, Gran Badsha, Aftab Ahmad Abbasi, and Soulmaz Salehian**

DA0025-A: Quantifying Air Quality at Concordia with Big Data using Watson Analytics
   
   **Zi Xuan Teh, Nicholas Ho, and Peter Tong**

DA1005-A: The use of bu cuo in Taiwan Mandarin
   
   **Chen I-Jou**

DA0055: Difference Analysis of Word-Usage between Full and Short Papers
   
   **Toshiro Minami and Yoko Ohura**

DA1011: Distributed Data Aggregation at Scale for Large Community of Users
   
   **Belinda Liu, Thenna Ponnusamy, Adithya Ramakrishnan, Ziyu Lang, Arjun Bhaigond, Amit Desai, and Yen Nguyen**

DA0017-A: Investigating Chronological Correlations between Lung Disease and Climate Data
   
   **Zemei Amanda Lee and Peter Tong**

   
   **Megan Yang and Peter Tong**

DA0037: Two New Tighter Upper Bounds for Mining High Average-Utility Itemsets
   
   **Jimmy Ming-Tai Wu, Jerry Chun-Wei Lin, Matin Pirouz, and Philippe Fournier-Viger**
Session 2: Algorithm and Information Technology Application

DA0036-A: E-Learning, Writing, and Big Data  
*Denise Comer*  
24

DA0048: Fast Entropy Attribute Value Frequency Algorithm to Detect Outliers for Categorical Data  
*Kang-Mo Jung*  
24

DA0035: Optimized Label Propagation Community Detection on Big Data Networks  
*Matin Pirouz* and *Justin Zhan*  
25

DA1010: Optimized Rank Estimator in Big Data Social Networks  
*Matin Pirouz*, *Sai Phani Parsa*, and *Justin Zhan*  
25

DA0056: In-place SIMD Accelerated Mathematical Morphology  
*Danijel Žlaus* and *Domen Mongus*  
25

DA0022: A Game-theoretic Approach to Device and Resource Discovery in Internet of Battle Things  
*Shahab Tayeb*, *Adrian Ruiz*, and *Shahram Latifi*  
26

DA0015: Novel Multi-Platform Method for Improve the High-Performance-Networks Standards Understanding  
*Josue A. Lopez-Leyva*, *Miguel A. Ponce*, *Raul I. Ramos-Garcia*, and *Ariana Talamantes*  
26

DA0032: Design and Implementation of Students' Score Correlation Analysis System  
*Jianhua Gu*, *Xingshe Zhou*, and *Xutao Yan*  
26

DA0038: On the Influence of Network Quality upon International Distance Learning  
*Makoto Nakazawa* and *Michiko Nakano*  
27

ME1009: Fundamentals of New Effective System to Accelerate Language Acquisition Using Visual Approach  
*Boyd L. Bradbury*, *Imad H. Tahini*, *Alex K. Dadykin*  
27

DA0003: Big Data in Higher Education: Disaggregation, Visualization, and Equity  
*Lynn Tashiro*, *Joel Schwartz*, *Amy Liu*, and *Jennifer Lundmark*  
27

DA0028: Secure Device Discovery in Big Data Communications Networks: Opportunities and Challenges  
*Shahab Tayeb*, *Adrian Ruiz*, and *Shahram Latifi*  
28
Session 3: Education and Education Management

DA0011-A: E-Learning Analytics to Discover the Relationship between Personality Traits and Tool Usage

Freimut Bodendorf

DA0046: A Series of Scientific Practice Activities for Increasing Middle School Students’ Interest in Robot

Lingling Wang, Li Fu, and Xiaoguang Hu

ME0017-A: The Effect of Gamification based Formative Assessment on English Second Language Learners' Motivation and Vocabulary Acquisition

Faten Alzaid

DA1009: A Comparative Study of Current Educational Situation of Overseas Students in China and the United States and Its Enlightenment to China

Li Yuanyuan and Wan Xuehong

DA0040: Big Data and Teaching Development in Higher Education

Samaa Badawi

DA0012: A Gender-Aware Gamified Scaffolding of Mathematics for the Middle School Level

Sarah Roessler and Mark Allison

DA1006: Using Natural Language Processing and Qualitative Thematic Coding to Explore Math Learning and Critical Thinking

Andrea Yoder Clark, Yaoran Li, and Yang Jiang

DA0020-A: An Appreciation for Data Information and Data Analytics Literate for K-12 Education with Watson Analytics

Peter Tong, Craig Gingerich, and Michael Lambert

ME1006-A: Impact of Learning Environment on higher education students in the U.S.

Wasmiah Albasri

ME0026-A: The importance of Education Innovation about Smart Health Care Consumer to improve Quality of Health Care

Shinko Ichinohe

DA1007: Using Data Mining to Analyze High School AP Exam Pass Fail Rates

Andrea Yoder Clark, Feng Yu, Shaoqing Yi, and Jia Shi
Session 4: Project and Business Management

ME1022: International Service Learning Project on Environmental Improvement and Sustainable Development for Nepal Earthquake Relief

Daniel C.W. Tsang, Lu B.L. Khoo, Iris K.M. Yu, and Nicole S.N. Yiu

ME0008: Concepts and Criteria for the Characterization of the Entrepreneurial University: A Systematic Literature Review

Carlos Eduardo Silva, Francisco De Assis Esteves, Rodolfo Cardoso, and Ramon Narcizo

ME0006-A: Optimal Portfolio Problem for the Risk Model in Discrete Processes

Takahiko Fujita, Naoyuki Ishimura, Kunio Nishioka, and Masahiro Yoshida

ME0011: The Effect of Using e-Tracking System for Small Enterprise

Kunyanuth Kularbphettong, Soraya Chalowattana, and Satien Janpla

ME0020: Failure of Marketing Activities in Logistics

Farhan Farhat Siddiqui

ME0021-A: Profit Distribution among Supply Chain Enterprises in Ecological Industrial Park Based on Improved Shapley Value Model

Yao Mi

ME1004: Leadership for Multicultural Teams: The Challenges in Managing Cross-cultural Conflicts

Afzalur Rahman

ME0027: Online Retailing Trend and Future Growth Opportunities in India

Shrestha Saroj

ME0009: Composition of Neurospora crassa Mycelium Color

Jaruwan Chutrtong, Waradoon Chutrtong, and Narumon Boonman

ME0012: Characteristics of Reduced-Fat Thai Pork Sausage with Inulin Addition

Naruemon Prapasuwannakul
Poster Session

ME1017: An Inventory Model Involving Safety Factor when the Received Quantity is Uncertain
   Fu Huang, Huaming Song, Lisha Wang, and Dongsheng Ma

DA0052: On Speech Recognition Algorithms
   Rene J. Perez, Chloe A. Kimble, Shaun V. Ault, and Jin Wang

DA0053: Overview on DeepMind and Its AlphaGo Zero AI
   Sean D Holcomb, William K Porter, Shaun V Ault, Guifen Mao, and Jin Wang

DA0054: An Overview of Google Brain and Its Applications
   Mallory Helms, Shaun V Ault, Guifen Mao, and Jin Wang
Authors’ Presentations (March 10, 2018)

Session 1

13:00-16:00

Venue: Hawaii Room I

Theme: Data Engineering

Session Chair: Prof. Jin Wang

Affiliation: Valdosta State University, USA

<table>
<thead>
<tr>
<th>ID</th>
<th>Title+ Author’s Name</th>
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<tbody>
<tr>
<td>DA0008</td>
<td>Visualization and Analytics Tool for Multi-dimensional Data</td>
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<tr>
<td></td>
<td><strong>David Jesenko</strong>, Matej Bručen, Niko Lukač, Borut Žalik, and Domen Mongus</td>
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<td></td>
<td>University of Maribor, Slovenia</td>
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<tr>
<td></td>
<td><strong>Abstract:</strong> This paper proposes a novel visualization and analytics tool, which is</td>
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<td>capable of searching for hidden relationships and patterns within large multi-</td>
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<td>dimensional data. The goal of the presented tool is to represent the data in novel</td>
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<td>ways, understandable and useful to the data owner, with new visual and statistical</td>
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<td>analytics. Various statistics are offered to the user in order to search for linear</td>
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<td>and nonlinear correlations between multiple variables. Using a simple dataset, we</td>
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<td>confirmed the suitability of the proposed tool for revealing new relationships and</td>
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<td>patterns in the used multi-dimensional data.</td>
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<tr>
<td>DA0009</td>
<td>Big Data Opportunities for Disease Outbreaks Detection in Global Mass Gatherings</td>
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<tr>
<td></td>
<td><strong>Sultanah M. Alshammari</strong> and Armin M. Mikler</td>
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<tr>
<td></td>
<td>University of North Texas, United States</td>
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<td></td>
<td><strong>Abstract:</strong> The different mass gatherings occurring all over the world, such as</td>
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<td>sports and religious events, pose public health concerns due to the increased risk</td>
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<td>of transmitting infectious diseases in these settings. When these events are</td>
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<td>concluded, the travel patterns of the returning international participants could</td>
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<td>further contribute to a rapid spread of infectious diseases causing global epidemics.</td>
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<td>The need to establish real-time disease outbreak surveillance in global mass</td>
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<td>gatherings motivates new technologies and advanced computational methods. The rapid</td>
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<td>expansion of digital devices and access to internet applications among participants in</td>
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<td>these gatherings generate a massive amount of data. Once being collected and</td>
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<td>processed, these data along with other health-related data, can make significant</td>
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<td>contributions to improve disease surveillance systems in global mass gatherings. In</td>
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<td>this paper, we present an overview of the main existing approaches for monitoring</td>
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<td>outbreaks of infectious diseases in these events and illustrate the perspectives and</td>
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<td>opportunities of Big Data in these application areas.</td>
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<tr>
<td>DA0005</td>
<td>Classification of Dementia Based on Over-Sampling Approach and Decision Tree</td>
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<td>Chiu-Shu Pan, Chi-Wei Wang, <strong>Meng-Hsiun Tsai</strong>, Cheng-Bang Kuo, and Cheng-Hsuan Kuo</td>
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<td>National Chung Hsing University, Taiwan</td>
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<td></td>
<td><strong>Abstract:</strong> The problem of population aging in Taiwan is getting worse, the diseases</td>
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<td>of elderly</td>
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patients are considered as an important issue. Dementia, one of brain diseases for elderly people, is a degeneration of brain. The main symptom of Dementia is the deterioration of memory and some cognitive functions, which eventually leads to the complete loss of mental function and death. Dementia will not only seriously affect the normal life, but also cause great burdens on relatives and society. Eventually, patients will completely lose mental functions. Therefore, diagnosis and treatment of dementia will be an important issue in medical research.

The data were obtained from medical center based on the Cognitive Abilities Screening Instrument (CASI) test. Data discretization and Synthetic minority over-sampling technique were used to pre-processing this data. Then, Classification and Regression Tree (CART) and Chi-Square Automatic Interaction Detector (CHAID) tree-based algorithms were used to classify this data. As the result of decision tree, age is an important factor which affects brain diseases for elderly people.

A Method for Big Data Analysis of the impact of Economic and Social Events on Japanese Stock Prices

Koki Kyo
Obihiro University of Agriculture and Veterinary Medicine, Japan

Abstract: In this paper, we propose an approach for isolating the effects of economic and social events on stock prices. Using a newly-proposed Bayesian modeling technique, we decompose the daily time series of stock price data into three components: a trend component, a cyclical component, and an irregular component. We can then analyze the behavior of each estimated component in relation to economic and social events. As an empirical example, we analyze the daily time series for closing values of the Nikkei Stock Average (NSA) from January 4, 2000 to November 28, 2017, and examine relationships between the estimated components of NSA and significant events together with variations in the economic and social.

The 10 Vs, Issues and Challenges of Big Data

Nawsher Khan, Mohammed Alsaqer, Habib Shah, Gran Badsha, Aftab Ahmad Abbasi, and Soulmaz Salehian
King Khalid University, Saudi Arabia

Abstract: In this emerging computing and digital globe, information and Knowledge are created and then collected with a rapid approach by wide range of applications through scientific computing and commercial workloads. Over 3.8 billion people out of 7.6 billion population of the world are connected to the internet. Out of 13.4 billion devices, 8.06 billion devices have a mobile connection. In 2020, 38.5 billion devices will be connected and globally internet traffic will be 92 times greater than it was in 2005. The use of such devices and internet not only increase the data volume but the velocity of market brings in fast-track and accelerates as information is transferred and shared with light speed on optic fiber and wireless networks. This fast generation of huge data creates numerous challenges. The existing approaches addressing issues such as, Volume, Variety, Velocity and Value in big data research perspective. The objectives of the paper are to investigate and analyze the current status of Big Data and furthermore a comprehensive overview of various aspects has discussed, and additionally has been described all 10 Vs’ (Issues) of Big Data.
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<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tr>
<td>DA0025-A</td>
<td>Quantifying Air Quality at Concordia with Big Data using Watson Analytics</td>
<td>Zi Xuan Teh, Nicholas Ho, and Peter Tong</td>
<td>Air Quality Index (AQI) is a measure of air quality used to inform the public on air pollution levels. This study focuses on fine particulate matter (PM 2.5), an air pollutant that damages organs and is a known carcinogen. This study analyzes PM2.5 data collected within Concordia International School Shanghai, China over the past few years (2014-2017). The study was carried out to find the rooms’ air quality permeability, seasonal trends, as well as to document the improvement in air quality after the implementation of improved air filters. Data utilized within this study was provided by the operations department. It was wrangled into an organized form before being used to calculate each room’s permeability ratio (the efficiency of a location’s air filtration system, calculated by dividing internal PM2.5 values by outdoor PM2.5 values). Afterwards, the spreadsheet was analyzed using Watson Analytics. The graphical results were compared to each other and together demonstrate the correlation between PM2.5 and yearly seasons. Additional analysis was completed using Microsoft Excel, comparing time of day to air quality, uncovering additional trends. This study solidifies some understanding on the facility’s filtration system using big data and uncovers new information regarding the PM2.5 trends in a closed building. This research can be used to improve air filtration systems by pinpointing areas where permeability ratios are low, and provides information on optimal fan speeds for heavily polluted days. The study can also help identify structural mistakes in buildings and diagnose areas of improvement for organizations.</td>
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<td>DA1005-A</td>
<td>The use of bu cuo in Taiwan Mandarin</td>
<td>Chen I-Jou</td>
<td>The Mandarin 『bu not』 and 『cuo wrong』 both express negativity, but they are usually used as a word to show positivity. How can Chinese learners master them? This study retrieves related Mandarin data from Big Data (<a href="http://data.gov.tw/">http://data.gov.tw/</a>) as well as Academia Sinica Balanced Corpus of Modern Chinese and aims to analyze the implicature of bu cuo and the relationship between positivity and negativity in word choice. The research questions are: (1) What do the speakers mean when they use bu cuo? And (2) do speakers tend to use positive word constituted by negative characters to express positivity, and vice versa? After analyzing the data, the findings show that in a ten point scale of positivity and negativity at the polarity sides, bu cuo is sometimes ranked at 6 to 7 points. But it is usually ranked at 7 to 10 points no matter with or without adding intensifiers such as hen 很 before it, or ye 耶 after it, or even a smile or a facial expression. However, when politeness comes into play, bu cuo can be ranked under 5 points. On the other hand, hai hao 還好 is used to mean under 5 points. However, bu cuo is constituted by negative characters; while hai hao by positive characters. People tend to use the combination of negative characters to express positivity and use the combination of positive characters to express negativity.</td>
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<td>DA0055</td>
<td>Difference Analysis of Word-Usage between Full and Short Papers</td>
<td>Toshiro Minami and Yoko Ohura</td>
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**Kyushu Institute of Information Sciences, Japan**

**Abstract:** Academic papers submitted to a conference are assessed by reviewers and judged if they deserve to be presented at the conference. The accepted papers are often classified into full papers, short papers, and other types, according mainly to their assessment. The major aim of the study presented in this paper is to find tips which are effective for a paper to be improved so that a paper supposed to be classified to a short paper becomes a full paper. In this paper, we investigate a scenario for finding the differences between full and short papers on the usage of words/terms. Then, we extract words which are characteristic for either full or short papers through an experimental study. In order to find these words, we introduce a couple of indexes of a word. The results inspire that we can obtain practical tips in this approach by refining this method.

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<th>DA1011</th>
<th>15:00-15:15</th>
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<tr>
<td><strong>Distributed Data Aggregation at Scale for Large Community of Users</strong></td>
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<tr>
<td>Belinda Liu, Thenna Ponnusamy, Adithya Ramakrishnan, <strong>Ziyu Lang</strong>, Arjun Bhaigond, Amit Desai, and Yen Nguyen</td>
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<td>eBay Inc. USA</td>
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**Abstract:** The eCommerce world is facing increasingly huge data volumes and bigger user community. This paper presents an architecture to enable highly performant and highly scalable queries for large community of external customers. The architecture explores the unique pattern of external customer activities: in a big data store hosting a big community of large number of users, in the range of tens or hundreds of millions, each user’s data is a fraction of the whole but the community as a whole demands extremely high volume of concurrent analytical queries with sub-second response. In the system, a key-value store is utilized to maximize read concurrency, a custom compression algorithm is developed to minimize data transfer, and a custom query engine is developed to provide aggregation on the fly. Scalability and other potential applications are discussed in the end.

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<th>DA0017-A</th>
<th>15:15-15:30</th>
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<td><strong>Investigating Chronological Correlations between Lung Disease and Climate Data</strong></td>
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<td>Zemei Amanda Lee and Peter Tong</td>
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<tr>
<td>Concordia International School Shanghai, China</td>
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**Abstract:** Asthma is a multi-faceted and far-reaching condition that is experienced by over 300 million people. The causes of asthma have long been debated. One potential cause is the climate — specifically, exposure to air contaminants. While most previous studies have investigated the biological effects of particulate pollution and smog, the progression of asthma in recent years with a geographical focus has not been researched extensively. This study investigates the pattern in the geospatial distribution of asthma over time in the United States, and if the data regarding certain air contaminants has a similar trend. Asthma population data was obtained and analyzed from the Asthma Call-Back Survey data tables of the National Institute of Health’s (NIH) Behavioral Risk Factor Surveillance System (BRFSS) data sets from the past five years. This set included data for approximately 40 US states. Changes in the population affected by asthma were compared to changes in particulate matter, as well as less known air contaminants such as propylene, isopentane, and methylecyclohexane. Relationships in asthma prevalence in the state with increase in specific pollutants were discovered. The data is supported by visualizations data mined by Watson Analytics.
— linear trends and geographical models. Apart from novel correlations, this project also reinforces that big data approaches reflect some laboratory research conclusions. Applications of this research include indicators to assist medical professionals in their practice and earlier intervention of asthma attacks. Furthermore, such studies often lead to insight regarding the biological reasons underlying the relationship between asthma and geographical location.

**Fake News: the Inside Scoop – Seeking Understanding with Watson Analytics**

*Megan Yang* and Peter Tong  
Concordia International School Shanghai, China

**Abstract:** This project hopes to better understand the general perception on “fake news” within the public, as well as suggest effective ways to reduce the problem. It has been a year since the 2016 U.S. presidential elections were under way, a time when bogus claims were made at whim. Now, with a president who has inducted “fake news” into his vernacular, I thought it was important to study the concept. In my project, I used IBM’s Watson Analytics as well as data from Kaggle, Gallup, Google Trends, Google Public Data Explorer and Microsoft Excel Spreadsheets. My conclusion is that most people view the phenomenon neutrally, and re-tweet or share more neutral/positive/ambivalent posts than negative. Zuckerberg has taken a stand against ‘misinformation’ by proposing solutions such as a stronger “fake news” detection system, easier reporting of “fake news” articles, third party verification, warnings on articles, improving quality of related articles, and suspending “fake” accounts. In such a chaotic world, we are constantly exposed to information that could be false from questionable sources. In order to become accurately informed citizens, society should begin to eradicate “fake news”. This becomes a simple job once citizens become well versed in detecting and ignoring bogus content. Together, let’s disprove the line: “A lie gets halfway around the world before the truth has a chance to get its pants on”, typically attributed to Winston Churchill.

**Two New Tighter Upper Bounds for Mining High Average-Utility Itemsets**

*Jimmy Ming-Tai Wu*, Jerry Chun-Wei Lin, Matin Pirouz, and Philippe Fournier-Viger  
Harbin Institute of Technology-Shenzhen, China

**Abstract:** In the past, frequent itemset mining (FIM) revealed the high-frequent patterns but ignored the more important concepts such as unit of profit and quality of the items. Recently, high-utility mining (HUIM) has caused wide public concern in the data mining field. A principal problem in HUIM is that the HUIM needs to handle the exponential search space for mining high-utility itemsets while the number of distinct items and the size of the database are both very large. High average-utility itemset mining (HAUIM) is an ex-tension for traditional HUIM concept to provide a different mea-sure with HUIM. It mines the average-utility value of the itemsets regarding to the length of it. Two new tighter upper-bounds, maxi-mumfollowing utility upper-bound (mfuub) and top-k revised trans-action maximum utility upper-bound (krtmuub), are proposed in this article to further contract the size of candidate pattern set. Experiments were conducted on two benchmark datasets to show that the proposed method outperforms the previous HAUIM algo-rithms in terms of runtime.
**Session 2**

13:00-16:00  
**Venue:** Hawaii Room II  
**Theme:** Algorithm and Information Technology Application  
**Session Chair:** Prof. Liz Bacon  
**Affiliation:** University of Greenwich, UK

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| DA0036-A | E-Learning, Writing, and Big Data  
Denise Comer  
Duke University, USA  
**Abstract:** What are the research intersections between e-learning, writing, and Big Data? This paper will explore research questions, methods, and outcomes for advancing knowledge about e-learning and writing through Big Data. Examples and insights will be drawn from relevant literature as well as the author’s writing-based Massive Open Online Course (MOOC), English Composition I. This MOOC, originally funded by the Bill & Melinda Gates Foundation, now operates as in partnership between Coursera and Duke University. The English Composition I MOOC currently enrolls approximately 1000 learners per week from around the world. Prior to this rolling mode of enrollment, the MOOC ran four iterations in session-based formats, totaling over 250,000 learners. The author in this paper will explore several important Big-Data research questions that can advance our understanding of e-learning and writing: How do writing and Big Data intersect? What can Big Data reveal about the reasons people write, as well as the challenges people experience with writing across contexts? How might Big Data help us understand the cross-cultural and social outcomes of a writing-based online course? What can Big Data teach us about writing pedagogy and e-learning strategies? What are the limitations and challenges of Big Data in this context? This paper will explore these questions, identifying prior and ongoing research outcomes, as well as methodological complexities. Since the English Composition I MOOC positions writing as a multidisciplinary method of communication and a mode of knowledge-building, the questions considered will be relevant to pedagogy in across fields, from STEM and humanities to the natural sciences and social sciences. |
| DA0048 | Fast Entropy Attribute Value Frequency Algorithm to Detect Outliers for Categorical Data  
Kang-Mo Jung  
Kunsan National University, Korea  
**Abstract:** Outliers are extreme observations which is far away from other observations. Outlier detection becomes a significant procedure for many applications such as detecting insurance fraud or industrial damage. Most outlier detection techniques work on numerical data, that is, continuous attributes. However, there are few research works on outlier detection for categorical data. AEVF(Automated Entropy Value Frequency) is a measure to detect outliers for categorical data. AEVF has complexity $O(qn^2)$, and it cannot be applied to large number n of observations and the |
We propose a fast entropy attribute value frequency (FEAVF) having complexity $O(qn)$. Furthermore, we propose a fast algorithm for multiple records deletion as well as single record deletion. The performance of FEAVF can be effectively illustrated for UCI machine learning datasets.

### Optimized Label Propagation Community Detection on Big Data Networks

**Matin Pirouz** and Justin Zhan  
University of Nevada, Las Vegas, USA

**Abstract:** Identifying community structures and subnetwork patterns for complex networks provide us with great knowledge about network. Community detection has been getting lots of attention and interest in recent years. The application for such knowledge goes from target marketing to biology, social studies, and physics. The existing algorithms either lack accuracy or are too slow for Big Data graphs. Due to the rise of Big Data graphs, such solutions prove impractical for real-world datasets. In this study, we change the feed system for the Label Propagation algorithm from a random method to a degree-based system. In addition, we introduce a new convergence method that checks the membership for every node and flags them as converged when they meet the requirement. The main contributions of this work are twofold: (i) we optimize the Label Propagation algorithm, improving the accuracy by a factor of two. The results depend on the complexity of the graph; i.e. the denser a graph structure is, the better result the algorithm will achieve. (ii) We solved the inconsistency of identified communities of Label Propagation algorithm. The results are depicted using two well-known metrics known as the Normalized Mutual Information and the Adjusted Rand Index. We present that Optimized Label Propagation has better results in various real-world dataset and artificial datasets.

### Optimized Rank Estimator in Big Data Social Networks

**Matin Pirouz,** Sai Phani Parsa, and Justin Zhan  
University of Nevada, Las Vegas, USA

**Abstract:** In this study, FAST Personalized PageRank is utilized to find the target node set. Using the mentioned target set, the algorithm gives an estimation of the closeness of any pair of nodes in the graph. Personalized Page Vector is used to find the most popular nodes, also known as hubs, in the network. The time taken by the estimation of Personalized PageRank is directly proportional to the network size. In this work, we proposed a node reduction method to prune the graph. To decrease the entropy and reduce the number of alternate paths to the target nodes, redundant popular nodes are identified and flagged. The flagged nodes are, then, given a lower priority in the computation. After pruning the graph, estimation results achieve an improved time complexity from $1/n$ to $1/(n-k)$. The proposed method achieves a twice shorter computation time as compared to FAST PPR and Local Update.

### In-place SIMD Accelerated Mathematical Morphology

**Danijel Žlaus** and Domen Mongus  
University of Maribor, Slovenia
### Results

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<tr>
<td>DA0022</td>
<td>A Game-theoretic Approach to Device and Resource Discovery in Internet of Battle Things</td>
<td>Shahab Tayeb, Adrian Ruiz, and Shahram Latifi, University of Nevada, Las Vegas, USA</td>
<td>This paper investigates the problem of optimizing automated supply support operations in the Internet of Battle Things. Such networks have highly dynamic environments and decision making in hindered by the big data volume, velocity, and variety. The literature for automation in the Internet of Battle Things lacks a decision-making model for this crucial logistic task. A solution is proposed based on coalition game theory. The problem of responding to supply support requests is formulated as a coalition game of selecting the best group of cargo supply vehicles, to respond to supply support requests in a region of the battlefront. Through the principles of coalition formation, a coalition selection and region assignment algorithm are designed to form coalitions for optimizing resource allocation and maintaining a high level of request satisfaction.</td>
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<td>DA0015</td>
<td>Novel Multi-Platform Method for Improve the High-Performance-Networks Standards Understanding</td>
<td>Josue A. Lopez-Leyva, Miguel A. Ponce, Raúl I. Ramos-Garcia, and Ariana Talamantes, CETYS University, Mexico</td>
<td>In this paper, a novel teaching-learning method using multi-platform (hardware and software) for improving the high-performance-networks standards understanding is presented. In general, the method is based on the determining the complete performance (e.g. using measurements such as bit error rate, signal to noise ratio, among others parameters) of a particular telecommunications system using the OSI model layers considering the technical feedback of the different layers. The results show that the student evaluation parameter scores (i.e. understanding of the formal documentation, technical information and multi-platform performance) are increased when the method proposed is used, although, particularly, some evaluation parameters were strongly affected. Therefore, the implementation of the method proposed in the undergraduate and graduate levels in an early way is needed in order to accelerate the understanding of the standards based on the research experience.</td>
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<td>DA0032</td>
<td>Design and Implementation of Students' Score Correlation Analysis System</td>
<td>Jianhua Gu, Xingshe Zhou, and Xutao Yan, Northwestern Polytechnical University, P. R. China</td>
<td>To make full use of students’ score and discover relationships among courses, we designed and implemented a system based on web for students’ score correlation analysis. The system can find the relationships among courses with students’ score or grade rank of students’ score. We use the Manhattan distance and correlation coefficient to measure the correlation between students’ scores.</td>
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two courses. The system adopts 3-tier Browser/Server architecture, which composes of a presentation layer, a domain logic layer and a data access layer. The system can draw scatter plot, calculate Manhattan distance, calculate correlation coefficient and mine association rules with students’ score or grade rank of students’ score. There are two kinds of correlation coefficient in the system: the Pearson and the Spearman. In order to obtain association rules meeting user requirements, the minimal support and the minimal confidence in association rules mining can be set conveniently. The analysis results are displayed in form of tables and graphics. Graphics are drawn in the Canvas element of HTML5 with JavaScript. With the help of the system, we can find relationships and association rules among different courses.

On the Influence of Network Quality upon International Distance Learning

Makoto Nakazawa and Michiko Nakano
The University of Aizu, Junior College Division, Japan

**Abstract:** Introducing TV conference systems into classes of distance learning in English education together with foreign countries, we have two classes of cyber seminars at Waseda University, i.e., the class of “Cross-Cultural Distance Learning” (CCDL), and that of “World Englishes and Miscommunications” (WEM)\[1\][2]. To realize the stable and comfortable learning environment, the influence of the quality of service (QoS) of the Internet on the classes is investigated. First, we measure the QoS such as the round-trip delay time (RTT), and the throughput (TP) of the communication lines between Waseda University and the interchange foreign universities. Next, the quality of experiment (QoE) as the subjective evaluation by the student questionnaires is measured. Finally, the relationship between the QoS and the QoE is analyzed, and we clarify the conditions to keep the service level agreement for the class management.

Fundamentals of New Effective System to Accelerate Language Acquisition Using Visual Approach

Boyd L. Bradbury, Imad H. Tahini, Alex K. Dadykin
Minnesota State University Moorhead, USA

**Abstract:** Increased migration of individuals from one country to another poses the challenge of accelerating improved language acquisition while reducing the cost of language training. This work strives to find new ways to improve communication and understanding, including improved quality and a reduced cost of training, as well as new ways of learning and skills training, mainly for adult learners. The use of the visual approach and the visual model, which is based on this approach, and the use of the system analysis tools and instructional technology provide new and encouraging results. This research has led to the development of a training system that utilizes language formation processes and language skill building.

Big Data in Higher Education: Disaggregation, Visualization, and Equity

Lynn Tashiro, Joel Schwartz, Amy Liu, and Jennifer Lundmark
California State University Sacramento, USA

**Abstract:** Terabytes of data are stored in university student information systems, learning management systems, and individual program repositories. However, use of this data to address equity issues in higher education has been slow to yield actionable results. Commercial analytics
products may identify retention risk factors, measure student login frequency, or archive advising transactions, but these products are often inflexible, complex to integrate, and not visually intuitive. To empower faculty and administrators to take action on difficult issues such as equity, access to data must be responsive to nuanced inquiries and visually relevant to stakeholders. Equity minded practice requires the disaggregation of student outcomes by gender, ethnicity, and socioeconomic status. Large data sets generated by midsize universities (30,000+ students) make this disaggregation statistically meaningful and preserves students’ anonymity. Visualization of this data can reveal disciplinary and institutional unconscious biases and provide insight into sources of systemic inequities. Case studies will demonstrate how data mining tools and Microsoft applications can be used to visualize equity data that is actionable by faculty on the course, discipline, and institutional levels. Using Microsoft Excel and Power BI, a descriptive study and dynamic dashboard will illustrate ethnically disaggregated data and reveal the nature and magnitude of inequities in STEM course grade distributions. Using R programming, a regression analysis study will visualize instructor dependent grade distributions across high enrollment courses in math, business, and psychology. These studies demonstrate how emergent action research practices in faculty learning communities stimulate practical solutions and scholarly research on equity in higher education.

| Secure Device Discovery in Big Data Communications Networks: Opportunities and Challenges | Shahab Tayeb, Adrian Ruiz, and Shahram Latifi |
| University of Nevada, Las Vegas, USA |
| **Abstract:** This manuscript reviews the device to device (D2D) discovery in a dynamically changing topology. The discovery protocols covered focus on the first and second layers of the TCP/IP reference model, with a focus on time-sensitive protocols. These protocols can be categorized as wake-up scheduling, contact-probing intervals, and slotted channel structure. Such techniques allow nodes to stay idle or asleep often in a network, but also receive and transmit information when needed. Since device discovery is usually time and energy consuming, many of the mentioned protocols attempt to lower both costs. The goal of this manuscript is to provide information on time-based D2D discovery protocols. Given the prevalence of transient sensors in the Internet of Things, efficient dynamic device discovery remains a paramount issue for large-scale deployment of IoT. A key issue in a hierarchical topology is to perspicaciously and efficiently identify and utilize the nearest available resource. We conclude that the existing discovery mechanisms do not consider the introduced overhead and are designed without consideration of the real-time computation requirements. |

**Time: 16:00 – 16:15**
## Session 3

16:15-19:00  
**Venue:** Hawaii Room I  
**Theme:** Education and Education Management  
**Session Chair:** Prof. Freimut Bodendorf  
**Affiliation:** University of Erlangen-Nuremberg, Germany

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| DA0011-A  
16:15-16:30 | E-Learning Analytics to Discover the Relationship between Personality Traits and Tool Usage  
Freimut Bodendorf  
University of Erlangen-Nuremberg, Germany |

**Abstract:** Today there is a large variety of tools, platforms, and media at hand to support distance education, especially by using various communication and collaboration systems for e-learning (see first figure). The “best” set of tools for the personal e-learning style of a student depends strongly on the learner’s personality. Here, the correlation between personality traits of a user and preferred learning tools in an e-learning scenario is investigated. For discovering the individual personality traits the Big Five approach is applied, comprising five dimensions to measure personality (see second figure). The research is based on “big data” of tool usage in an e-learning environment at university. Data of e-learning practice has been gathered from around 1000 students participating in a course in the field of information systems. The participants worked on a collaborative and online-based scenario. Learning tasks were assigned to around 200 teams, each comprising five students. Data analysis focuses on discovering personality traits on the one hand and learning behavior on the other hand. The results of this research show that personality traits, particularly in case of e-learning, have a significant influence on the individual preference of learning tools. This finding helps to offer students individual learning environments and gives guidelines for the operational eLearning process.

| DA0046  
16:30-16:45 | A Series of Scientific Practice Activities for Increasing Middle School Students’ Interest in Robot  
Lingling Wang, Li Fu, and Xiaoguang Hu  
Beihang University, China |

**Abstract:** In order to expand the high-quality comprehensive education resources for middle schools to keep up with the scientific progress, a series of scientific practice activities are designed and opened to middle school students under the support of government. Based on the analysis of the activity feasibility, and focusing on the line of interest-finding, interest-inspiring, interest-cultivating, and interest-having to inspire children’s innovation spirits, a series of interesting activities including robot playing music project and dancing robot project are developed. In these activities, the middle school students work together with the undergraduates to stimulate their learning interest. These activities have been given many times to a lot of students and the results indicate that the robotic activities can help students increase their interest in robots and automation. In addition, it can also enhance the participants’ hands-on and practice abilities in the collaborative process of the activities.
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<tr>
<td>ME0017-A</td>
<td>The Effect of Gamification based Formative Assessment on English Second Language Learners’ Motivation and Vocabulary Acquisition</td>
<td>Faten Alzaid, McGill University, Canada</td>
<td>Abstract: Educational assessment is a powerful tool to measure learning outcomes and traditionally is carried via paper-pencil formative assessment (PPFA). Gamification is a new concept in education that uses games in non-game context, and it can be integrated via technology game-based formative assessment (GBFA). This study aims to provide evidence for the effectiveness of GBFA in comparison to PPFA on English second language (ESL) learners’ motivation and vocabulary learning. Two ESL classes were assessed by GBFA and PPFA for 2 weeks. Results indicated GBFA group acquired significantly more vocabulary than PPFA group and shared more positive comments about their experience than their counterparts in the survey. GBFA group has also significantly surpassed their counterparts in their perceptions of formative assessment to enhance their motivation and competence. In conclusion, GBFA has a clear value to enhance ESL learners’ motivation that effectively lead to improving vocabulary acquisition.</td>
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<td>DA1009</td>
<td>A Comparative Study of Current Educational Situation of Overseas Students in China and the United States and Its Enlightenment to China</td>
<td>Li Yuanyuan and Wan Xuehong, SiChuan University, China</td>
<td>Abstract: Under the development tendency of education internationalization, the development level of overseas students has drawn much attention from people both inside and outside of higher education in all countries around the world. The paper conducts a comparative study on the basic conditions of the educational development of international students in China and the United States in recent years, based on the six aspects of the number and scale, the educational structure, the source of students, the reception place, the professional structure and the scholarship system. It aims to get to know the problems existing in the educational development of the overseas students in China, and put forward corresponding suggestions.</td>
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<td>DA0040</td>
<td>Big Data and Teaching Development in Higher Education</td>
<td>Samaa Badawi, Mansoura University Egypt/Effat University</td>
<td>Abstract: Big Data has recently become a common term. Its applications penetrate every field from business and healthcare to education. Many of Big Data techniques are used to enhance the educational process through its different stages starting from the early stage and ending with the evaluation stage. In order to ensure the quality of learning process, keeping communication channels between students and their teachers open is an essential pillar. Big Data provides various techniques to support such channels. This research shows how the results of the course evaluation, which is one of the Big Data application systems, are the basic incentive to develop teaching strategy. The research compares between two different teaching strategies applied in two successive semesters based on the feedback received from the students. An obvious enhancement occurred in the students’</td>
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<tr>
<td>DA0012</td>
<td>A Gender-Aware Gamified Scaffolding of Mathematics for the Middle School Level</td>
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</table>
| 17:30-17:45 | Sarah Roessler and **Mark Allison**  
University of Michigan- Flint, USA |
| DA0020-A | An Appreciation for Data Information and Data Analytics Literate for K-12 Education with Watson Analytics |
| 18:00-18:15 | **Peter Tong, Craig Gingerich**, and Michael Lambert  
Concordia International School Shanghai, China |
| DA1006 | Using Natural Language Processing and Qualitative Thematic Coding to Explore Math Learning and Critical Thinking |
| 17:45-18:00 | **Andrea Yoder Clark**, Yaoran Li, and Yang Jiang  
University of San Diego, United States of America |

**Abstract:** Coined the “leaky pipeline”, young women entering college enroll significantly less in STEM majors than do their male peers. Researchers have attributed these leaks in part, to gender-influenced perceived competencies (self-efficacy) and pedagogical biases that lead to inadequate preparation for the requisite advanced mathematics in a wide range of STEM core subject areas. This paper presents our work in progress of a gamified scaffolding for mathematics. With grounding in constructionist theory, this approach targets young females at the 7th grade level by providing a pedagogical augmentation of the Common Core State Standards for Mathematics (CCSSM).

**Abstract:** This study explored 189 diverse 5th grade students’ perceived opportunities to learn 21st Century Skills in three school districts. Unstructured text data from one open-ended question asking students to describe their experiences with critical thinking was analyzed using text parsing, semantic tagging and qualitative thematic coding. Students were asked to describe a challenging problem and how they solved it. Responses were coded using semantic tagging to create a frequency matrix describing the seven 21st Century Skills. When asked to describe a challenging problem, a majority of students (62%) mentioned a task related to math learning. Results also showed that when students were engaged in critical thinking tasks, there was much less frequent mention of other 21st Century Skills. When other 21st Century Skills were mentioned at the same time as critical thinking, communication or collaboration were highest ranked, yet these skills were mentioned about 5 times less frequently than critical thinking skills, if at all. Given the importance of collaboration and communication when solving challenging problems, the infrequent use of these skills when engaging in critical thinking tasks may reduce opportunities for learning.

**Abstract:** Concordia International School Shanghai pioneered the first Big Data Analytics course in 2014. Big data is exploding and we are not sure how to appreciate so much information. We need to become literate and tease insight out of the noise. In this presentation, we will discuss strategies for designing visualizations and dashboards and understand why it is important for K-12 students to become literate of the data information and analytics. Using the available data sets, we tend to ignore...
the beauty of data and see only the information as simply ‘too much’. Students want to improve their ability to communicate about and with data. Stories are our currency. With the emerging discipline of data storytelling, we will explore how the structure of story and analytics elevate a data-driven message to be heard and motivate audiences to act. An individual can create attractive infographics but it is ‘data storytelling’ – numbers, statistics and facts – that transforms these elements into visuals and a new narrative. As we become more aware of the link between the visual representation and the data we want to share, the communication process becomes an intellectual exercise, transforming the craft of data. Join this session to better understand the ‘power of storytelling’ using the exhaust of data with Watson Analytics and on the importance of how to use your data in a way that connects directly with your audience, why data literacy is a critical communication skill and what is data analytics.

Impact of Learning Environment on higher education students in the U.S.

Wasmiah Albasri
Shaqra University, Saudi Arabia
Edgewood College, USA

Abstract: It is a universal fact that all students in the same classroom do not perform at the same level. Environment in which they are learning might be one of the important factors affecting their performance. This research will focus on the impact of the learning environment on graduate students at a private university in the U.S.

A study was conducted with the goal of determining what learning material is the most helpful and beneficial for college level students. This paper describes the research that was conducted, the results of that study, and what those results show. It also discusses problems and limitations for the study. Finally, it talks about the implications that this study can have for the future. The results of this study showed that the learning method that most of the time the students preferred was also the method that they found to be most helpful.

The studying methods have evolved during the past few decades. Studies over the years indicate that learning environment, methods of teaching and tools used for learning have substantial impact on the over learning experience and learning outcomes. Each student has his/her own way of learning thus preferring some study materials and methods over others. The key is to incorporate various tools that will suit different kinds of learners and help to better learning process.

The importance of Education Innovation about Smart Health Care Consumer to improve Quality of Health Care

Shinko Ichinohe
Saitama Gakuen University, Japan

Abstract: Recent years, there has been sufficient discussion about the importance of Universal Health Coverage (UHC) for people all over the world to receive health care services. Access to healthcare services is important first, but it is important that the final outcome after healthcare service delivery is the best. Health Care Consumer education is required for patients to acquire the ability to evaluate healthcare services by patients, including patient satisfaction. However, in the area of health care, expertise is very high, information is asymmetric, and health care consumer education
is not sufficiently done. Meanwhile, lifestyle-related diseases are increasingly taking the cause of death, and medical expenses are high, making it a big business. And healthcare consumers with knowledge of medical care and high self-care abilities including health behavior have been demanded. In this presentation, I would like introduce various approaches concerning the current state of health care consumer education in Japan and improvement of self-care capacity. Then I would like to discuss the education and related factors necessary for smart health care consumers and consider what kind of innovation is needed.

<table>
<thead>
<tr>
<th>DA1007</th>
<th>Using Data Mining to Analyze High School AP Exam Pass Fail Rates</th>
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<tbody>
<tr>
<td>Andrea Yoder Clark, Feng Yu, Shaoqing Yi, and Jia Shi</td>
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<tr>
<td>University of San Diego, United States of America</td>
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**Abstract:** This study uses data mining analytics techniques including trained multiple regression models to identify the predictors of AP pass rates in CA public high schools using publicly available data from the State of California’s Department of Education website. The independent variables included in the analysis explored the relationship of elementary and middle school characteristics such as Math and English Language Arts (ELA) test scores, as well as the degree of poverty at a school represented by the percentage of students qualifying for Free and Reduced-Price Meals (FRPM). Other variables considered were the percentage of English Language Learners (ELL’s), the size of the school, special curricular programs (IB program, dual language), whether the school was a charter or traditional public school, as well as the age of the school. The multiple regression model and exploratory correlational analysis, highlighted interaction effects of two key variables, FRPM and ELL’s. Our final results indicated that, higher 3rd grade math scores offered some mediating effects protecting against the negative effect of high levels of FRPM and ELL students at a school. 3rd grade Math scores were the best predictor of high school AP pass rates. Unfortunately, the effect of 3rd grade mean math scores was not high enough to completely cancel out the effects of high rates of poverty or being an English language learner.
# Session 4

16:15-18:45  
**Venue:** Hawaii Room II  
**Theme:** Project and Business Management  
**Session Chair:** Assoc. Prof. Daniel C. W. Tsang  
**Affiliation:** Hong Kong Polytechnic University, Hong Kong

<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Author’s Name</th>
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|    | International Service Learning Project on Environmental Improvement and Sustainable Development for Nepal Earthquake Relief                  | Daniel C.W. Tsang, Lu B.L. Khoo, Iris K.M. Yu, Nicole S.N. Yiu  
The Hong Kong Polytechnic University, Hong Kong                                                                 |
| ME1022 |                                                                                                                                          | Abstract: Natural disasters have impacted the affected population economically and socially as well as the living environment in substantial ways, but most governments and non-governmental organizations focus on emergency relief and with very limited resources left available for the long-term relief programme. This service learning project aimed to address the post-disaster challenges by contributing our professional knowledge to help the earthquake victims, enhancing the overall living environment and sustainable community development. A total of 40 undergraduate and postgraduate students from multiple disciplines participated in this project. Pre-trip preparation workshops were organized according to four key themes, namely 1) water supply, 2) wastewater treatment, 3) health and safety education, and 4) GPS mapping. During the stay in Nepal, the students conducted GPS surveying, water supply mapping, health and hygiene teaching, toilet and house rebuilding projects, family visits and interviews, engagement games and activities, as well as cultural exchange workshops. Both qualitative and quantitative assessments were given to students at different programme stages, including reflective journals, questionnaires, and group interviews. The assessment results suggest that realisation of global citizenship, understanding local context and problems, application of engineering knowledge in real-life situation, and interpersonal communication skills in a culturally diversified environment were the most significant learning outcomes. This study holistically evaluated the project deliverables of service learning programme before, during, and after the service trip to Nepal in both qualitative and quantitative manner. The students’ learning outcomes are measured and evaluated under scope of academic learning, service experience, and personal development. Limitations of the programme, such as inadequate local technical support in obtaining data, induced additional learning outcomes as unexpected benefits in students learning. We also compared the effectiveness and feedback of this voluntary service learning programme with those of mandatory service learning programmes. We highlighted and discussed the similarities and discrepancies for the purpose of enhancing students’ learning experience in future programmes. |
| ME0008 | Concepts and Criteria for the Characterization of the Entrepreneurial University: A Systematic Literature Review | Carlos Eduardo Silva, Francisco De Assis Esteves, Rodolfo Cardoso, Ramon Narcizo  
Federal University of Rio de Janeiro, Brazil                                                                 |
| 16:15-16:30 |                                                                                                                                          |                                                                                                     |
| 16:30-16:45 |                                                                                                                                          |                                                                                                     |
**Abstract:** Face to the scenery of economic and technological development, based on knowledge and innovation, young entrepreneurs (and the startups) have become key piece of the market. The universities, in turn, assume the role of entrepreneurs when they create systematically, from teaching and research efforts, new ventures and start to become important for the local economic development. The paper presents the different sides of the "entrepreneurial university", highlighting among the different literature presents approaches its concepts and criteria characterization. The study was conducted from a systematic literature review on scientific bases. A total of 361 papers were found, and after applying filters, 80 of these were analyzed. As a result, are presented quantitative analysis about the bibliographic production, and the main concepts present in the literature. Thus, the article contributes to guide decision makers on policies of University management.

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<tr>
<th>ME0006-A</th>
<th>16:45-17:00</th>
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<tr>
<td><strong>Optimal Portfolio Problem for the Risk Model in Discrete Processes</strong></td>
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<tr>
<td>Takahiko Fujita, Naoyuki Ishimura, Kunio Nishioka, and Masahiro Yoshida</td>
<td>Chuo University, Japan</td>
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</tbody>
</table>

**Abstract:** The celebrated Cramér-Lundberg (CL) model has initiated the so-called risk theory, which becomes nowadays one of central subjects for the quantitative risk management. It is known that the CL model employs the compound Poisson process and the ruin probability is estimated. In this presentation, we are concerned with the optimal portfolio problem for risk process. It is widely recognized that the problem is important for the quantitative analysis of the risk management and much progress has been already made. On the other hand, we here deal with a slightly extended process of the CL model, which consists of the symmetric random walk and the Poisson process; we consider a discrete movement of two independent random variables. Under these circumstances, the study of the optimal portfolio problem has not been commonly discussed despite its importance. Our main tool is a discrete analogue of the famous Ito formula. We derive a discrete version for the processes with two independent randomness and establish a discrete Hamilton-Jacobi-Bellman equation, which characterizes the optimality condition. Examples show that our method work fairly well and we hope that our investigation will shed light on the analysis of the risk management.

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<tr>
<th>ME0011</th>
<th>17:00-17:15</th>
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<tr>
<td><strong>The Effect of Using e-Tracking System for Small Enterprise</strong></td>
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<tr>
<td>Kunyanuth Kularbphettong, Soraya Chalowattana, and Satien Janpla</td>
<td>Suan Sunandha Rajabhat University, Thailand</td>
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</table>

**Abstract:** This paper present the results of using e-Tracking system based on web application for small enterprise to provide and manage documents and operations of the publisher. The proposed system can solve problems of processes and operations daily and it is easy to use and reduce data loss problems. Also, the application was designed to support and enhance document tracking system on Web site. At the evaluation stage, the developed system was evaluated the performance by experts and users. Questionnaires and Black Box Testing were used to measure the performance and satisfaction of the proposed application. The results were satisfactory as followed: Means for experts and users were 4.23 and 4.16 respectively.

<table>
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<tr>
<th>ME0020</th>
<th>17:15-17:30</th>
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<tbody>
<tr>
<td><strong>Failure of Marketing Activities in Logistics</strong></td>
<td></td>
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<tr>
<td>Farhan Farhat Siddiqui</td>
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</tbody>
</table>
### Abstract

The main objective of this study is to discover the factors which effect failure of marketing activities during logistics and supply chain management process. These factors may cause failure of marketing activities and ultimately loss of business.

Facts and findings will be described from research based case study to understand the key issues that help the organization to keep into consideration while marketing in logistics. The report will also propose recommendations for people in marketing and logistics.

Three factors are very important to make marketing failure; knowledge, time and place. Marketing develops knowledge of product into prospective customer. It conveys all attributes of products to any customer. We are in the process of identifying factors of failure in marketing logistics and it means that in the absence of proper knowledge or awareness of products, organization cannot achieve its marketing objective that lead to after all profit.

Similarly time and place are also very important to failure of marketing in logistics. This means products or services should be accessible in the market in right time and right place. It is marketing to decide when and where to market products or services and provide logistics.

According to the studies there is no experiential exploration that observes the importance of procedures in addressing collaborative efforts between marketing and logistics. Consequently, this study will find out the outcomes of a survey from logistics and marketing experts which made efforts to evaluate the study.

---

**Profit Distribution among Supply Chain Enterprises in Ecological Industrial Park Based on Improved Shapley Value Model**

**Yao Mi**  
Chongqing University, China

**Abstract:** Industrial enterprises in the industrial park are competing with each other through economic interests, environmental interests and social interests. The stability of the economic network organizations and cooperative relations depends on the rationality of the interests of the various stakeholders. Stable operation is directly related to the success or failure of eco-industrial park. By constructing the Shapley model of the profit distribution among the supply chain in the eco-industrial park, considering the operating costs, taking the risk as the correction factor, and determining the weight of the factor, using the supply chain enterprises to adjust the increase amount of income distribution. And validates the feasibility and applicability of the modified Shapley model in the distribution of benefits among enterprises in the eco-industrial park, with a view to providing theoretical and decision-making reference for the construction and stability of the eco-industrial park.

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**Leadership for Multicultural Teams: The Challenges in Managing Cross-cultural Conflicts**

**Afzalur Rahman**  
Douglas College, Canada

**Abstract:** Globalization opened many opportunities for multinational companies but it also created some major challenges for global leaders. While in Chinese culture gift-giving is a popular approach...
to build strong relationship between businesses and government, in the United States it is seen as a corrupt and morally repugnant way of doing business. Additionally, conflict may rise due to negative stereotyping such as ethnocentrism that causes cross-cultural conflict because it encourages promoting inequality within an organization. Leaders of multicultural teams need to understand different cultural values, behavioral attributes, and organizational dynamics which are essential to succeed in global marketplaces.

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>ME0027</td>
<td>Online Retailing Trend and Future Growth Opportunities in India</td>
<td>Shrestha Saroj</td>
<td>Soka University, Japan</td>
</tr>
<tr>
<td>18:00-18:15</td>
<td><strong>Abstract:</strong> Online retailing is the new business in India, comparing to the other developed countries like U.S, Japan, and U.K. Bureaucracy hurdles, slow development in technology like online infrastructure, digital payments and knowledge of the consumers on online shopping are some reasons which made online retail development slow progress in India. The main objective of this paper is to examine the current online retail market trend in India and its future growth opportunities. It identifies that online retailing is still a new business in India, but market competition is an increasing rate. Due to the liberalization of Foreign Direct Investment (FDI) policies foreign online retailers like Amazon, Alibaba, are already in the market competing with the local retailers like Flipkart, Snapdeal. Also, the online retail market will become a big hub in near future, due to the revolution of digital payments and increasing uses of smartphones. Consumers are becoming more familiar with the digital and online payments systems. It also find outs that within 2-3 years, Indian online retail market leader would be the Amazon; differentiating themselves by focusing on niche product categories, market segmentation and building a strong brand image.</td>
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<td>ME0009</td>
<td>Composition of Neurospora crassa Mycelium Color</td>
<td>Jaruwan Chutrtong,</td>
<td>Suan Sunandha Rajabhat University, Thailand</td>
</tr>
<tr>
<td>18:15-18:30</td>
<td><strong>Abstract:</strong> Microbial products have been used by human for a long time. One of the products is color. Researches were done to find more products that can be useful. Therefore, this research studied about color extracted from mycelium of Neurospora crassa, fungus in phylum Ascomycota, which has not been used before. Mycelium was extracted with absolute ethanol. The color was orange. The optimum wavelength for the colorimetric measurement was 420.5 nm and the optical density (O.D.) or absorbance of the color extract was 0.222. From the result of experiment, it found that the appropriate solution to separate the colorants extracted to pure substance for studying the composition is acetone and chloroform. After separated with TLC aluminum sheet, there are five groups of separable substances.</td>
<td>Waradoon Chutrtong, Narumon Boonman</td>
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<tr>
<td>ME0012</td>
<td>Characteristics of Reduced-Fat Thai Pork Sausage with Inulin Addition</td>
<td>Naruemon Prapasuwannakul</td>
<td>Suan Sunandha Rajabhat University, Thailand</td>
</tr>
<tr>
<td>18:30-18:45</td>
<td><strong>Abstract:</strong> The aim of this study was to evaluate the effect of different concentration of inulin as fat</td>
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37
replacers on the chemical composition, physical properties, textural characteristics, and sensory acceptance of Thai style pork sausages. Six batches were prepared with added inulin from 0-60 % of fat content. The results showed that the addition of inulin increased moisture and fiber content while decreased fat content of the sausages. Color parameters and cooking yield were not significantly different, while the water activity were slightly increased. Cooking times were also reduced. Texture properties; hardness, cohesiveness, springiness, gumminess, and chewiness of inulin added sausages were slightly lower than those of the control sausages. The addition of inulin improved the sensory properties of reduced fat pork sausages. The sausages with 30 % of inulin replaced was the most acceptable due to their highest scores in all sensory attributes. Therefore, inulin can be used as a fat replacer in Thai pork sausage to obtain healthy and functional product.

March 10, 2017 19:00
(Kauai Room)  Dinner Banquet
<table>
<thead>
<tr>
<th>Poster Session</th>
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<tbody>
<tr>
<td><strong>ME1017</strong></td>
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<tr>
<td>An Inventory Model Involving Safety Factor when the Received Quantity is Uncertain</td>
</tr>
<tr>
<td>Fu Huang, Huaming Song, Lisha Wang, Dongsheng Ma</td>
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<tr>
<td>Nanjing university of science and technology, China</td>
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</table>

**Abstract:** In practice the quantity received may not match the quantity ordered due to various reasons such as rejection during inspection, human errors in counting, damage or breakage during transportation and worker’s strike, etc. Under this background, we investigate a continuous review inventory model with shortage including the case where the quantity received is uncertain, in which the lead time, safety factor, lost sales rates and order processing cost are decision in variables. The objective of this paper is to minimize the total relevant cost by simultaneously optimizing the order quantity, safety factor, lost sales rates and order processing cost. Two models are developed based on the probability distribution of lead time demand following a normal distribution and distribution free respectively. From the results of numerical example, it can be shown that, the significant savings can be achieved through the reductions of order processing cost, safety factor and lost sales rate.

| **DA0052** |
| On Speech Recognition Algorithms |
| Rene J. Perez, Chloe A. Kimble, Shaun V. Ault, and Jin Wang |
| Valdosta State University, USA |

**Abstract:** We use speech recognition algorithms daily with our phones, computers, home assistants, and more. Each of these systems use algorithms to convert the sound waves into useful data for processing which is then interpreted by the machine. Some of these machines use older algorithms while the newer systems use neural networks to interpret this data. These systems then produce an output generated in the form of text to be used. A large amount of training data is needed to make these algorithms and neural networks function effectively.

| **DA0053** |
| Overview on DeepMind and Its AlphaGo Zero AI |
| Sean D Holcomb, William K Porter, Shaun V Ault, Guifen Mao, and Jin Wang |
| Valdosta State University, USA |

**Abstract:** The goal of this paper is to give insight into what the company known as DeepMind is and what accomplishments it is making in the fields of Machine Learning and Artificial Intelligence. Among their accomplishments, particular focus will be placed upon the recent success of AlphaGo Zero which made waves in the machine learning and artificial intelligence communities. The various parts of AlphaGo Zero’s implementation such as reinforcement learning, neural networks, and Monte Carlo Tree Searches will be explained with brevity to give better understanding of the process as a whole.

| **DA0054** |
| An Overview of Google Brain and Its Applications |
| Mallory Helms, Shaun V Ault, Guifen Mao, and Jin Wang |
| Valdosta State University, USA |
Abstract: Machine learning is quickly becoming a major field of research for many technology companies. Google, perhaps, is at the forefront of this movement and have instituted an entire research team called Google Brain to explore the technical aspect and applications of large scale neural networks. Thus far, the group has developed advancements in the areas of natural language recognition, open-source deep learning software, and healthcare related uses for computer vision assisted diagnosis.
<p>| Listener 1 | Jason Galea                     | Georgian College, Canada |
| Listener 2 | Aanis Abdiaziz Mohamed         | Somali Government, office of the President |
| Listener 3 | Manal Jaza Alharbi             | Tuskegee University, USA  |
| Listener 4 | Rami R Alharbi                 | Edgewood College, USA    |
| Listener 5 | Saad Abdullah Ahmed Alqahtani  | University of Dayton, USA|
| Listener 6 | Eyman Ghorm Alashali           | Eastern Mennonite University, USA |
| Listener 7 | Alhumaid, Mohammed Thani A     | Sacred Heart University, USA|
| Listener 8 | Saeed Amer Alsuayri            | University of Southern California, USA |
| Listener 9 | Durga D. Poudel                | University of Louisiana at Lafayette, Louisiana, USA |
| Listener 10| Mohammed Sherzad Qader         |                         |
| Listener 11| Almahmoud, Abdullah Ibrahim A  |                         |
| Listener 12| Hideya MATSUKAWA               | Tohoku University, Japan |
| Listener 13| Rawabi Alsuwailem              |                         |
| Listener 14| Walaa Nasser Alsarami          |                         |
| Listener 15| Ashwaq T Alsoubai              |                         |
| Listener 16| Asma Alshehri                  |                         |
| Listener 17| Bashayr Hamad Alqahtani        |                         |
| Listener 18| Khadija Munir                   |                         |
| Listener 19| Maha Masoud Alharbi            |                         |</p>
<table>
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<tr>
<th>Listener 20</th>
<th>Munirah Abdulaziz Alyousef</th>
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<tr>
<td>Listener 21</td>
<td>Saleh Alzahrani</td>
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<td>St. Mary’s University, USA</td>
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<td>Listener 22</td>
<td>Waleed Aldweesh</td>
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<td>Listener 23</td>
<td>Yahya Almazni</td>
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<td>Listener 24</td>
<td>Zara Farooq</td>
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<td>Listener 25</td>
<td>RAMATHAN JJINGO</td>
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<td>Listener 26</td>
<td>Abdulaziz Mohammed Ali Asiri</td>
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<td></td>
<td>Loyola Marymount University, USA</td>
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One Day Tour Information

Please note all the Optional tour will be paid by participants themselves, participants are free to decide whether to participate in or not.

City Tour in Honolulu (Date: Mar. 11, 2018).
Pick up venue: Hilton Waikiki Beach
Pick up time: 8:30 AM
The Attractions (8:30 AM - 12:00 AM):

Hawaii Macadamia Nut Farm

The mac nut are originally from Queensland in Australia. It is a staple food for local aborigines because it is rich in nutrition. Due to its wide range of uses such as excellent effect on health and beauty, its popularity has also risen.

Chinaman’s Hat

Mokolii, also known among locals as Chinaman’s Hat (view panorama) because of its shape, is a popular spot for taking pictures on Oahu’s windward coast. The small island is located at the north end of Kaneohe Bay, offshore of Kualoa Regional Beach Park. Mokolii means “little lizard” in Hawaiian. It’s also called Chinaman’s Hat because of its cone shape, which resembles the peasant’s hat worn in rural China.

Sunset Beach

Sunset Beach Oahu is another Best of Oahu highlight and a beautiful surfing mecca not to be missed after making your rounds at Waimea Bay and the Banzai Pipeline! It’s a great Oahu Beach to watch big-wave surfers in action during the wintertime.

Waimea Bay

Located on the legendary North Shore, Waimea Bay was an influential surf spot during the dawn of big wave surfing in the 1950s. Adventurous surfers began to challenge the powerful winter waves of Waimea (as well as Makaha Beach on the west side) giving birth to the big wave-riding phenomenon.

Lunch Time: 12:00-13:00 PM (The lunch will not be included.)
The Attractions (13:00 PM - 17:00 PM):

Laniakea [Honu] Beach

Laniakea Beach on Oahu's North Shore is also known as Turtle Beach. The main attraction here is the green sea turtles who often times can be seen on the beach basking in the sun. On other Oahu beaches, you're lucky if you can spot one of these amazing animals in the ocean, sticking her head out of the water.

Haleiwa Town
The charming Haleiwa, about a one-hour drive from Waikiki. More than the laid-back surf town it seems, Haleiwa is filled with local style and country ambiance, as well as cool surf shops and boutiques, charming art galleries and understated restaurants housed in plantation-era buildings. Rich with island history, Haleiwa is now the social and artistic hub of the North Shore.

**Dole Plantation**

Originally operated as a fruit stand beginning in 1950, Dole Plantation opened to the public as Hawaii’s “Pineapple Experience” in 1989. Today, Dole Plantation is one of Oahu’s most popular visitor attractions and welcomes more than one million visitors a year. Dole Plantation provides enjoyable activities for the entire family, including the Pineapple Express Train Tour, the Plantation Garden Tour, and the Pineapple Garden Maze.

After the one day tour finished, the tour guide will send you back to Hilton Waikiki Beach.
Upcoming Conferences

2018 2nd International Conference on Education and Multimedia Technology (ICEMT 2018), which will be held during July 02-04, 2018, in Okinawa, Japan.

ICEMT 2018 aims to bring together researchers, scientists, engineers, and scholar students to exchange and share their experiences, new ideas, and research results about all aspects of Education and Multimedia Technology, and discuss the practical challenges encountered and the solutions adopted.

About Publication

- The conference proceedings of ICEMT 2017 has been indexed by EI Compendex and Scopus.
- The Accepted Papers by ICEMT 2018 will be published in international conference proceeding, which will be indexed by EI Compendex and Scopus.

Full Paper or Abstract Submission Deadline: April 05, 2018

Topics of interest for submission include, but are not limited to:

- Systems, Design and Technologies
- Systems and technologies in e-education
- E-learning technologies, standards and systems
- Mobile learning
- Knowledge management
- Multimedia in e-learning
- Education
- E-learning strategies
- Social benefits of e-Learning
- E-Learning effectiveness and outcomes
- Web-based learning
- Digital classrooms
- Collaborative on-line learning
- Content repositories
- Data envelopment analysis
- Meta data standards

Submission method:

A: Electronic Submission System: https://cmt3.research.microsoft.com/ICEMT2018
B: Conference Email: icemt@iedrc.org

Contact:

E-mail: icemt@iedrc.org, Telephone: +852-3500-0005 (Hong Kong)

http://www.icemt.org/
2018 International Conference on Big Data-Driven Management (ICBDM 2018) will be held in North China University of Technology, Beijing, China during August 4-6, 2018.

ICBDM 2018 is sponsored by IEDRC and North China University of Technology, Beijing, China.

About Publication

- All accepted papers by ICBDM 2018 will be published in international conference proceedings, which will be indexed by EI Compendex and Scopus.

Full Paper or Abstract Submission Deadline: April 20, 2018

Topics of interest for submission include, but are not limited to:

Artificial Intelligence: Brain Models, Brain Mapping, Cognitive Science
Natural Language Processing
Intelligent Data Mining and Farming
Intelligent Databases
Intelligent Tutoring Systems
Distributed AI Algorithms and Techniques
Distributed AI Systems and Architectures
Neural Networks and Applications
Heuristic Searching Methods
Expert Systems

Data Mining/Machine Learning: Statistical Learning
Relational Learning Models
Meta Learning
Neural Networks
Mining Text and Semi-Structured Data
Legal and Social Aspects of Data Mining
Medicine Data Mining
Data Visualization
Data Reduction Methods
Business/Corporate/Industrial Data Mining

Submission method:

A: Electronic Submission System: https://easychair.org/conferences/?conf=icbdm2018
B: Conference Email: icbdm@iedrc.net

Contact:

E-mail: icbdm@iedrc.net, Telephone: +852-3500-0005 (Hong Kong)
http://icbdm.net/
2018 International Conference on Computing and Big Data (ICCBD 2018), which will be held in College of Charleston, Charleston, South Carolina, USA during September 08-10, 2018.

ICCBD 2018 is sponsored by IEDRC and College of Charleston, South Carolina, USA.

About Publication

- Submissions will be reviewed by the conference committees and accepted papers will be published in International Proceedings, which will be indexed by EI Compendex and Scopus.

Full Paper or Abstract Submission Deadline: April 30, 2018

Topics of interest for submission include, but are not limited to:

**Artificial Intelligence:**
- Brain models, Brain mapping, Cognitive science
- Natural language processing
- Fuzzy logic and soft computing
- Decision support systems
- Distributed AI systems and architectures
- Neural networks and applications

**Data Mining/Machine Learning:**
- Hierarchical learning models
- Bayesian methods
- Meta learning
- Heuristic optimization techniques
- Neural networks
- Multi-criteria reinforcement learning
- Deviation and outlier detection
- Web mining
- Big Data Infrastructure
- Big Data Applications
- Data Engineering
- Cloud/Grid/Stream Computing for Big Data
- High Performance/Parallel Computing Platforms for Big Data

Submission method:

A: Conference Email: iccbd@iedrc.net

B: Electronic Submission System: https://cmt3.research.microsoft.com/ICCBD2018

Contact:

E-mail: iccbd@iedrc.net, Telephone: +852-3500-0005 (Hong Kong)

http://www.iccbd.org/
2019 10th International Conference on E-Education, E-Business, E-Management and E-Learning (IC4E 2019), which will be held in Waseda University, Japan during January 10-13, 2019.

IC4E 2019 is sponsored by IEDRC and Faculty of Science and Engineering Waseda University.

About Publication

- Submissions will be reviewed by the conference committees and accepted papers will be published in International Proceedings, which will be indexed by EI Compendex and Scopus.

Full Paper or Abstract Submission Deadline: September 10, 2018

Topics of interest for submission include, but are not limited to:

e-Education:
- Systems, Design and Technologies
- Systems and technologies in e-education
- Applications and integration of e-education

e-Learning:
- Systems, Design and Technologies
- e-Learning platforms
- environments

e-Commerce:
- Business-to-business e-commerce

E-government, policy and law
Business/Enterprise Architectures

e-Business:
- Innovative business models
- Business process re-engineering
- Virtual enterprises and virtual markets

e-Service:
- Web Services, Grid Services and Service-Oriented Computing
- Web Intelligence, Agents and Personalization

Submission method:

A: Conference Email: ic4e@iedrc.org
B: Electronic Submission http://www.easychair.org/conferences/?conf=ic4e2019

Contact:

E-mail: ic4e@iedrc.org, Telephone: +852-3500-0005 (Hong Kong)
http://www.ic4e.net/