Table of Contents

Technology Roadmap for Hawaii Resiliency: Resiliency and Sustainability through Advanced Analytics Thomas Klemas and Steve Chan	1
Hold the Drones: Fostering the Development of Big Data Paradigms through Regulatory Frameworks Robert F Spousta III and Steve Chan	7
Space Race 2.0: Expanding Global Internet Accessibility Robert Spousta III, Steve Chan, and Bob Griffin	17
Automating Clustering Analysis of Ivory Coast Mobile Phone Data Deriving Decision Support Models for Community Detection and Sensemaking Thomas Klemas and Steve Chan Network Science Research Centre	25
Blind Spots and Counterfeits in the Supply Chain: Lessons from Haiti that can be well applied to the Philippines and Hawaii Alison Kuzmickas, Steve Chan, Robert Spousta III, and Simone Sala	31
From Cheese to Fondue: A Sensemaking Methodology for Data Acquisition, Analytics, and Visualization <i>Robert F Spousta III, Stef van den Elzen, Steve Chan, and Jan-Kees Buenen</i>	38
Market Basket Analysis Using Heterogeneous Multivariate Probit Models for Groups of Product Categories Harald Hruschka	44
Measuring the Effects of Moods and Heart Rate Variability when Playing Video Games Fang-Yu Pai and Ching-Hsiang Lai	48
A Modified Multi-objective Differential Evolution Algorithm with Application in Reinsurance Analytics Omar Andres Carmona Cortes and Andrew Rau-Chaplin	51
League Adjusted Salary Model using Local Polynomial Regression Shinwoo Kang	59
Context-Aware Data Analytics for Activity Recognition Mohammad Pourhomayoun, Ebrahim Nemati, Bobak Mortazavi, and Majid Sarrafzadeh	63
Monitoring Service Adaptation and Customer Churn in the Beginning Phase of a New Service <i>Teemu Mutanen, Ville Osterlund, and Risto Kinnunen</i>	69
An Approach to Highly Available and Extensible Data Management Systems for Large Scale Factory Floor Data Jaehui Park and Su-young Chi	74

Fuzzy Clustering Based Approach to Traffic Classification and Anomaly Detection Julija Asmuss and Gunars Lauks	78
Data-Driven Approach for Analysis of Performance Indices in Mobile Work Machines Teemu Vayrynen, Suvi Peltokangas, Eero Anttila, and Matti Vilkko	81
Determing the Business Value of Business Intelligence with Data Mining Methods Karin Hartl and Olaf Jacob	87
Data Processing Intervals through Dynamical Models Applied to the Analysis of Self-Degenerative Systems <i>Ricardo Tomas Ferreyra</i>	92
Predicting the Next Executions Using High-Frequency Data Ko Sugiura, Teruo Nakatsuma, and Kenichiro McAlinn	95
Profit-based Logistic Regression: A Case Study in Credit Card Fraud Detection Azamat Kibekbaev and Ekrem Duman	101
Big & Deep Data Analytics using Statistical Significance: An Introductory Survey Sourav Dutta	106
Combining Machine Learning with Shortest Path Methods Armand Prieditis and Chris Lee	112
Towards the Automated Identification of Orphan Diseases from Case Descriptions Christian Rohrdantz, Andreas Stoffel, Franz Wanner, and Martin Drees	121
How can Plan Ceibal Land into the Age of Big Data? Martina Bailon, Mauro Carballo, Cristobal Cobo, Soledad Magnone, Cecilia Marconi, Matias Mateu, and Hernan Susunday	126
Clustering Analysis of Academic Courses based on LMS Usage Levels and Patterns: Gaussian Mixture Model, K- Means Clustering and Hierarchical Clustering Il-Hyun Jo, Yeonjeong Park, Hyeyun Lee, Jongwoo Song, and Suyeon Kang	130
Projective Adaptive Resonance Theory Revisited with Applications to Clustering Influence Spread in Online Social Networks <i>Jianhong Wu</i>	138
Accelerated Mean Shift for Static and Streaming Environments Daniel van der Ende, Jean Marc Thiery, and Elmar Eisemann	140
Fast and Unsupervised Classification of Radio Frequency Data Sets Utilizing Machine Learning Algorithms	146

Phil Romero and Kalpak Dighe

Dynamical Behavior of Communicability Structures in Complex Networks	
Kyungsik Kim and Seungsik Min	

153