



The Tenth International Conference on Machine Learning and Applications

**Hilton Hawaiian Village, Honolulu,
Hawaii, Dec. 18-21, 2011**

Conference At-A-Glance

Time	Dec. 18	Dec. 19	Dec. 20	Dec. 21
08:45-09:00		Opening Remark		
09:00-10:20	Tutorial I Special Session 1	Keynote Speech (I)	Keynote Speech (II)	Keynote Speech (III)
10:20-10:40	Coffee break	Coffee break	Coffee break	Coffee break
10:40-12:20	Tutorial I (cont.) Special Session 2	Oral 1 Oral 2 Special Session 7	Oral 5 Oral 6 Special Session 8	Oral 9 Oral 10 Special Session 10
12:20-01:45	Lunch	Lunch	Lunch	Lunch
02:00-03:40	Tutorial 2 Special Session 3 Special Session 4	Oral 3 Oral 4 Tutorial 3 Poster setup	Oral7 Oral8 Special Session 9 Poster setup	Workshop (I) Workshop (II) Tutorial 4 Special Session 11
03:40-04:00	Coffee break	Coffee break Poster setup	Coffee break Poster setup	Coffee break
04:00-05:40	Tutorial 2 (cont.) Special Session 5 Special Session 6	Posters (I) Tutorial 3 (cont.)	Posters (II)	Workshop (III) Tutorial 4 (cont.) Special Session 12
06:00-08:00			Banquet	Adjourn

All the sessions will be held in the following rooms: Honolulu Suite 1, 2, and 3, Tapas Ballroom 2 (posters) and 3 (keynote speech), and Iolani Suite 5-6

Sunday, December 18

09:00am – 10:20am

Honolulu Suite 1 – Tutorial I

Performance Evaluation for Learning Algorithms

Prof. Nathalie Japkowicz, University of Ottawa

Honolulu Suite 2 – Special Session 1

Machine Learning for Human Behavior Understanding and Assisted Living

Session chair: Dr. Vineeth Balasubramanian, Arizona State University

144: Error Bounds for Online Predictions of Linear-Chain Conditional Random Fields. Application to Activity Recognition for Users of Rolling Walkers

Mathieu Sinn and Pascal Poupart, University of Waterloo, Canada

345: Manifold Learning and Recognition of Human Activity Using Body-Area Sensors

Mi Zhang and Alexander Sawchuk, University of Southern California, USA

Machine Learning for Human-centered Multimedia Computing

Vineeth Balasubramanian, Shayok Chakraborty, Sethuraman Panchanathan, Arizona State University, USA

10:20am – 10:40am Coffee Break

10:40am – 12:20pm

Honolulu Suite 1 – Tutorial I (cont.)

Performance Evaluation for Learning Algorithms

Dr. Nathalie Japkowicz, University of Ottawa

Honolulu Suite 2 – Special Session 2

Learning in evolving environments and its application on real-world problems

Session chair: Dr. Moamar Sayed-Mouchaweh

209: Extending k-Means-Based Algorithms for Evolving Data Streams with Variable Number of Clusters

Jonathan Andrade Silva, University of Sao Paulo - ICMC; Eduardo Hruschka, University of São Paulo

283: Dynamic Evolving Cluster Models using On-line Split-and-Merge Operations

Edwin Lughofer, University of Linz

333: A Neural Network Model for Learning Data Stream with Multiple Class Labels

Tomoyasu Takata, Seiichi Ozawa, Kobe University

354: Adaptive Time Window Size to Track Concept Drift

Moamar Sayed Mouchaweh, Janan Zaytoon, ; Patrice Billaudel, University of Reims

362: Incremental Learning based on Growing Gaussian Mixture Models

Abdelhamid Bouchachia

Sunday, December 18

02:00pm – 03:40pm

Honolulu Suite 1 – Tutorial II

All of Graphical Models

Prof. Jerry Zhu, University of Wisconsin – Madison

Honolulu Suite 2 – Special Session 3

Machine Learning for Biomedical Literature Analysis and Text Retrieval (I)

Session Chair: Rezarta Islamaj Dogan and Lana Yeganova, NLM, NIH, USA

309: Unsupervised Grammar Induction of Clinical Report Sublanguage

Rohit Kate, University of Wisconsin-Milwaukee, USA

317: Pattern Learning Through Distant Supervision For Extraction Of Protein-Residue Associations

Komandur Ravikumar, Haibin Liu, Karin Verspoor, University of Colorado; Judith Cohn, Los Alamos National Laboratory; Michael Wall, University of Colorado

328: Evaluating Distributional Semantic and Feature Selection for Extracting Relationships

Ehsan Emadzadeh, Siddhartha Jonnalaga, Graciela Gonzalez, Arizona State University

Honolulu Suite 3 – Special Session 4

Machine Learning with Multimedia Data (I)

*Session Chairs: Jens Grivolla, Barcelona Media Innovation Center, Spain,
Cyril Laurier, University Pompeu Fabra, Spain*

266: Metric Learning for Music Symbol Recognition

Ana Rebelo, Faculdade de Enge; Jakub Tkaczuk, INESC Porto, Faculdade de Engenharia, Universidade do Porto; Ricardo Sousa, INESC Porto, Faculdade de Engenharia, Universidade do Porto; Jaime Cardoso, INESC Porto

305: Looking Beyond Genres: Identifying Meaningful Semantic Layers from Tags in Online Music Collections

Rafael Ferrer Flores, Tuomas Eerola, University of Jyväskylä

339: Music Similarity Estimation with the Mean-Covariance Restricted Boltzmann Machine

Jan Schlüter, OFAI; Christian Osendorfer, TU München

03:40pm – 04:00pm, Coffee Break

Sunday, December 18

04:00pm – 05:40pm

Honolulu Suite 1 – Tutorial II (cont.)

All of Graphical Models

Prof. Jerry Zhu, University of Wisconsin – Madison

Honolulu Suite 2 – Special Session 5

Machine Learning for Biomedical Literature Analysis and Text Retrieval (II)

Session Chair: Rezarta Islamaj Dogan and Lana Yeganova, NLM, NIH, USA

332: Discriminative Application of String Similarity Methods to Chemical and Non-chemical Names for Biomedical Abbreviation Clustering

Atsuko Yamaguchi, Yasunori Yamamoto, Jin-Dong Kim, Toshihisa Takagi, Akinori Yonezawa, DBCLS

343: An EM Clustering Algorithm Which Produces a Dual Representation

Sun Kim, National Institutes of Health; W John Wilbur, NCBI

357: Comparison of Two Methods for Finding Biomedical Categories in Medline

Lana Yeganova, NLM, NIH

360: Ranking interactions for a curation task

Fabio Rinaldi, University of Zurich

Honolulu Suite 3– Special Session 6

Machine Learning with Multimedia Data (II)

Session Chair: Jens Grivolla, Barcelona Media Innovation Center, Spain,

Cyril Laurier, University Pompeu Fabra, Spain

349: Combining Visual And Acoustic Features For Music Genre Classification

Ming-Ju Wu, Zhi-Sheng Chen, Jia-Min Ren, Jyh-Shing Jang, Tsing Hua University

350: Mood Classification from Musical Audio Using User Group-dependent Models

Kyogu Lee, Minsu Cho, Korea Telecom

351: The influence of chord duration modeling on chord and local key extraction

Johan Pauwels, Jean-Pierre Martens, Marc Leman, Ghent University

352: Non-Linear Semantic Embedding for Organizing Large Instrument Sample Libraries

Eric Humphrey, Aron Glennon, Juan Bello, NYU

Monday, December 19

08:45am – 09:00am Opening Remark

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech

Data Mining on Heterogeneous Information Networks

*Prof. Jiawei Han, Bliss Professor of Computer Science,
University of Illinois at Urbana-Champaign*



Objects in the real world are interconnected, often forming complex heterogeneous but semi-structured information networks. Different from some studies on social network analysis where friendship networks or web page networks form homogeneous information networks, heterogeneous information network reflect complex and structured relationships among multiple typed objects. For example, in a university network, objects of multiple types, such as students, professors, courses, departments, and multiple typed relationships, such as teach and advise are intertwined together, providing rich information.

We explore data mining on such semi-structured heterogeneous information networks by introducing several interesting novel data mining methodologies, including integrated ranking and clustering, classification, data integration, trust analysis, role discovery and prediction. We show that structured information networks are informative, and link analysis on such networks is powerful at uncovering critical knowledge hidden in large semi-structured networks. We also present a few promising research directions on mining heterogeneous information networks.

Monday, December 19

08:45am – 09:00am Opening Remark

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech (I)

Data Mining on Heterogeneous Information Networks

Prof. Jiawei Han, Bliss Professor of Computer Science, University of Illinois at Urbana-Champaign

10:20am – 10:40am Coffee Break

10:40am – 12:20pm

Honolulu Suite 1 – Oral 1

Feature Selection and Extraction (session Chair: Seiichi Ozawa)

293: Stability and Classification Performance of Feature Selection Techniques

Taghi Khoshgoftar, Huanjing Wang, Althea Liang, FAU

168: Heuristic Evaluation of Expansions for Non-Linear Hierarchical Slow Feature Analysis

Alberto Escalante, Laurenz Wiskott, Institut für Neuroinformatik, Ruhr-University of Bochum

169: Nonparametric Feature Extraction via Direct Maximum Margin Alignment

Miao Cheng, Chi-Man Pun, Yuan Yan Tang, University of Macau

246: Margin-based Feature Selection Metric for Small Samples and Imbalanced Data Classification

Malak Alshawabkeh, Northeastern University

Honolulu Suite 2 – Oral 2

Pattern Recognition (Session Chair: Yusuke Nojima)

187: The Role of Top-Down Attention in the Cocktail Party: Revisiting Cherry's Experiment after 60 Years

Letizia Marchegiani, Sapienza, University of Rome, Seliz Karadoğ˘an, Tobias Andersen, Jan Larsen, Lars kai Hansen, Technical University of Denmark

265: On Convergence of Discriminative Training Algorithm for Speaker Recognition

Srikanth Madikeri, and Hema Murthy, IIT Madras

295: Avatar Face Recognition using Wavelet Transform and Hierarchical Multi-scale LBP

Abdallah Mohamed, University of Louisville

Monday, December 19

10:40am – 12:20pm

Honolulu Suite 3– Special Session 7

Machine Learning in Medicine

Chair: Rohit Kate, University of Wisconsin – Milwaukee, USA

191: Automatic Detection of Excessive Glycemic Variability for Diabetes Management

Matthew Wiley, Razvan Bunescu, Cindy Marling, Jay Shubrook, Frank Schwartz, Ohio University

205: Building an Ensemble of Probabilistic Classifiers for Lung Nodule Interpretation

Dmitriy Zinovev, Jacob Furst, Daniela Raicu, DePaul University

225: Rule-based Prediction of Medical Claims' Payments: A Method and Initial Application to Medicaid Data

Janusz Wojtusiak, Che Ngufor, ;John Shiver, Ronald Ewald, George Mason University

287: Towards a Decision Support System for Timely Hospital Discharge

Rodrigo Vivanco, Dan Roberts, University of Manitoba

314: Classification of patients using novel multivariate time series representations of physiological data

Patricia Ordonez, UMBC; Tom Armstrong, Wheaton College; Tim Oates, University of Maryland Baltimore County; Jim Fackler, Johns Hopkins School of Medicine

02:00pm – 03:40pm

Honolulu Suite 1 – Tutorial 3

Markov Chain Mixing with Applications

Dr. Prasad Tetali, Georgia Tech

Honolulu Suite 2 – Oral 3

Optimization

Session chair: Sofus Macskassy

217: Spiral Multipoint Search for Global Optimization

Kenichi Tamura, Tokyo Metropolitan University, Keiichiro Yasuda

Monday, December 19

Honolulu Suite 2 – Oral 3

Optimization (cont.)

228: Optimization-based Domain Adaptation towards Person-Adaptive Classification Models

Rita Chattopadhyay, Shayok Chakraborty, Vineeth Balasubramanian, Sethuraman Panchanathan, Arizona State University

249: Thompson Sampling for Dynamic Multi-Armed Bandits

Neha Gupta, University of Maryland; Ole-Christopher Granmo, University of Agder Norway; Ashok Agrawala, University of Maryland, College Park

282: Learning with Guaranteed Label Quality

Eileen Ni, UWO; Charles Ling, UWO

Honolulu Suite 3 – Oral 4

Gaussian Mixture (session chair: Roberto Manduchi)

184: Splitting and Merging Gaussian Mixture Model Components: An Evolutionary Approach

Thiago Covões and Eduardo Hruschka, University of São Paulo

235: An improved deterministic implementation method for Bayesian mixture distributions

Yohei Nakada, Aoyama Gakuin University

291: Terrain Mapping and Obstacle Detection using Gaussian Processes

Morten Kjærgaard, Alessandro S. Massaro, DTU Space; Enis Bayramoglu, Kjeld Jensen

03:40pm – 04:00pm Coffee Break

04:00pm – 05:40pm

Honolulu Suite 1 – Tutorial 3 (cont.)

Markov Chain Mixing with Applications

Dr. Prasad Tetali, Georgia Tech

Tapa Ballroom 2 – Posters

Chairs: Dr. Lipyeow Lim, University of Hawaii;

Dr. Bo Luo, University of Kansas

Monday, December 19: 04:00 – 05:40

Tapa Ballroom 2 – Poster (I)

130: A Robust Affine Invariant Feature Matching Approach

Ce Gao, Yixu Song, Peifa Jia, TsingHua University

131: Automatic Dishware Inspection: Applications and Comparisons of Two New Methods

Trung Duong, Mohsen Emami, Lawrence Hoberock, Oklahoma State University

138: Speech Rating System through Space Mapping

Ibrahim Almosallam, Mohamed Alkanhal, KACST

156: Arabic Handwriting Recognition using Concavity Features and Classifier Fusion

Maha El Meseery, Sherif Abel Azeem, American University in Cairo

161: Recognition of Segmented Online Arabic Handwritten Characters of the ADAB Database

Hany Ahmed, Sherif Abel Azeem, American University in Cairo

167: Infinite Decision Agent Ensemble Learning System for Credit Risk Analysis

Shukai Li, Ivor W. Tsang, Nanyang Technological University; N. S. Chaudhari, Indian Institute of Technology, India

185: Efficient Optimization of Logistic Regression by Direct Use of Conjugate Gradient

Kenji Watanabe, Takumi Kobayashi, Nobuyuki Otsu, National institute of AIST

200: De-noising Slap Fingerprint Images for Accurate Slap Fingerprint Segmentation

Pattabhi Ramaiah, Krishna Mohan, Indian Institute of Technology Hyderabad

203: An Integrative Approach for Community Discovery in Social Networks

Saeed Salem, Shadi Banitaan, ibrahim aljarah, james brewer, rami Alroobi, North Dakota State University

204: L0-Regularized Parametric Non-negative Factorization for Analyzing Composite Signals

Takumi Kobayashi, Kenji Watanabe, Nobuyuki Otsu, National institute of AIST

227: Using SVD for Segmentation and Classification of Human Hand Actions

Alberto Cavallo, Seconda University di Napoli

232: Incremental Compressive Pattern Classification

Andrzej Ruta, AGH University

238: Using Genre Interest of Users to Detect Profile Injection Attacks in Movie Recommender Systems

G. A. Dehkordi, M Shajari, S Khadivi, M. A. Morid, Amirkabir University of Technology

243: Nonlinear RANSAC Optimization for Parameter Estimation with Applications to Phagocyte Transmigration

Mingon Kang, Jean Gao, Liping Tang, U of Texas at Arlington

247: Improvement of Particle Filter for Reinforcement Learning

A NOTSU, K HONDA, H ICHIHASHI, Y KOMORI, Y IWAMOTO, Osaka Prefecture University

248: Fault Detection through Sequential Filtering of Novelty Patterns

Dragan Gasevic, John Cuzzola, Athabasca University, Ebrahim Bagheri,

250: Simple Reinforcement Learning for Small-Memory Agent

Akira NOTSU, Katsuhiko HONDA, Hidetomo ICHIHASHI, Yuki KOMORI, Osaka Prefecture University

Monday, December 19: 04:00 – 05:40

Tapa Ballroom 2 – Poster (I)

251: Adaptive Profit Sharing Reinforcement Learning Method for Dynamic Environment

Sadamori Koujaku, Kota Watanabe, Hajime Igarashi, Information Science Technology Hokkaido University

254: Infinite Dirichlet Mixture Model and Its Application via Variational Bayes

Wentao Fan, Concordia University, Nizar Bouguila,

256: Mobile Robot Self-Localization based on Omnidirectional Vision and Gaussian Models

D Campos-Sobrino, M Varguez-Moo, V Uc-Cetina, F Coral-Sabido, A Espinosa-Romero, UADY

261: Towards Incremental Learning of Mildly Context-Sensitive Grammars

Katsuhiko Nakamura, Keita Imada, Tokyo Denki University

262: MPI-based Parallelization for ILP-based Multi-Relational Concept Discovery

Alev Mutlu, Pinar Senkul, Yusuf Kavurucu, Turkish Naval Academy

269: Transfer Method for Reinforcement Learning in Same Transition Model

Toshiaki Takano, Haruhiko Takase, Hiroharu Kawanaka, Shinji Tsuruoka, Mie University

270: A Model of Joint Learning in Poverty: Coordination and Recommendation Systems in Low-Income Communities

Andre Ribeiro, MIT

275: L1 vs. L2 Regularization in Text Classification when Learning from Labeled Features

Sinziana Mazilu, Jose Iria, IBM Research-Zurich

276: Statistical Learning for File-Type Identification

Siddharth Gopal, Yiming Yang, Konstantin Salomatin, Jaime Carbonell, CMU

284: Bayesian embedding of co-occurrence data for query-based visualization

Mohammad Khoshneshin, W. Street, Padmini Srinivasan, The University of Iowa

288: Motion compensated X-ray CT algorithm for moving objects

Takumi Tanaka, Shin-ichi Maeda, Shin Ishii, Kyoto University

297: A Data-Mining Approach to Travel Price Forecasting

Till Wohlfarth, Xavier Casellato, Francois Roueff, ParisTech

308: An empirical investigation of stacking for music tag annotation

George Tzanetakis, Anthony Theocharis, Matt Pierce, University of Victoria

310: Impact of Noise and Data Sampling on Stability of Feature Selection

Taghi Khoshgoftaar, Ahmad Abu Shanab, Randall Wald, FAU

313: An Attention-Based Image Retrieval System

Gulsah Tumuklu Ozyer and Fatos Yarman Vural, Middle East Technical University

319: Machine Learning for Author Affiliation within Web Forums

Jeffrey Ellen, Shibin Parameswaran, SPAWAR Systems Center Pacific

Tuesday, December 20

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech

Machine Learning Algorithms for Metagenomics

*Prof. Raj Acharya, Computer Science & Engineering
Penn State University*



Metagenomics involves the study of genomic content of microbial communities in their natural environments, bypassing the need for isolation and laboratory cultivation of individual species. It has shown tremendous potential to discover and study the vast majority of species that are resistant to cultivation and sequencing by traditional methods. Unlike single genome sequencing, assembly of a metagenome is currently intractable and is by large, an unsolved mystery.

A crucial step in metagenomics that is not required in single genome assembly is clustering the reads belonging to a species i.e. the need to associate the reads with its source organism. Machine learning techniques aim to identify the species present in the sample, classify the sequences by their species of origin and quantify the abundance of each of these species. The efficacy of the machine learning techniques depends on the number of reads in the dataset, the read length and relative abundances of source genomes in the microbial community.

In this talk, we will present machine learning algorithms to cluster metagenomic samples.

Tuesday, December 20

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech (II)

Machine Learning Algorithms for Metagenomics

Prof. Raj Acharya, Professor of Computer Science, Penn State University

10:20am – 10:40am Coffee Break

10:40am – 12:20pm

Honolulu Suite 1 – Oral 5

Evaluation Methods and Clustering (session Chair: Jian Zhang)

279: Predictive subspace clustering

Brian McWilliams and Giovanni Montana, Imperial College

307: Training Data Subdivision and Periodical Rotation in Hybrid Fuzzy Genetics-Based Machine Learning

Hisao Ishibuchi, Shingo Mihara, Yusuke Nojima, Osaka Prefecture University

315: On-line Learning with Evolutionary Algorithms towards Adaptation of Underwater Vehicle Missions to Dynamic Ocean Environments

Mae Seto, Defence R&D Canada

177: Active Batch Selection for Fuzzy Classification in Facial Expression Recognition

S Chakraborty, H Venkateswara, V Balasubramanian, S Panchanathan, Arizona State University

Honolulu Suite 2 – Oral 6

Neural Network and Non-parametric Methods (Session Chair: M. Arif Wani)

151: Adaptive Neuro Fuzzy Inference System, Neural Network and Support Vector Machine for caller behavior classification

Preteesh Patel and Tshilidzi Marwala, University of Johannesburg

208: Pre-Trained Neural Networks used for Non-Linear State Estimation

Enis Bayramoglu, Nils Andersen, Niels Poulsen, Ole Ravn, Technical University of Denmark

327: Robust Training of Multilayer Neural Networks using Parameterized Online quasi-Newton Algorithm

Hiroshi Ninomiya, Shonan Institute of Technology

320: A Non-Parametric Approach to Approximate Dynamic Programming

Olivier Pietquin, Hadrien Glaude, Fadi Akrimi, Matthieu Geist, SUPELEC - UMI 2958 (GeorgiaTech - CNRS)

Tuesday, December 20

10:40am – 12:20pm

Honolulu Suite 3 – Special Session 8

Machine Learning in Bioinformatics and Computational Biology

Chair: Vasile Palade, University of Oxford, UK

153: Frequent Substring-Based Sequence Classification with an Ensemble of Support Vector Machines Trained using Reduced Amino Acid Alphabets

Charith Chitraranjan, Saeed Salem, Anne Denton, Loai Alnemer, Omar Al-Azzam, Shahryar Kianian, Muhammad Iqbal, NDSU

186: Predicting ,Äessential,Ä genes across microbial genomes: a machine learning approach

Krishnaveni Palaniappan, Lawrence Berkeley National Lab; Sumitra Mukherjee, Nova Southeastern University

316: Analysis of Microbiome Data across Inflammatory Bowel Disease Patients

Nuttachat Wisittipanit, Huzefa Rangwala, Patrick Gillevet, George Mason University

02:00pm – 03:40pm

Honolulu Suite 1 – Oral 7

SVM and Meta-learning

Chair: Hisao Ishibuchi

181: Prediction of Foreign Exchange Market States with Support Vector Machine

Kei Shioda, Shangkun Deng, Akito SAKURAI, Keio University

326: Using meta-learning to recommend meta-heuristics for the traveling salesman problem

Jorge Kanda, Andre Carvalho, Eduardo Hruschka, Carlos Soares, Universidade do Porto

329: Nonlinear transformations of marginalisation mappings for kernels on hidden Markov models

Anna Carli, University of Verona; Francesca Carli, University of Padova

304: Efficient Approximate Semi-supervised Support Vector Machines Through Submodular Optimization

Wael Emara, Mehmed Kantardzic, University of Louisville

Tuesday, December 20

Honolulu Suite 2 – Oral 8

Classification

Chair: *K. Nakamura*

143: Towards Automatic Classification on Flying Insects using Inexpensive Sensors

Gustavo Batista, Eamonn Keogh, University of California; Agenor Mafra-neto, ISCA Technologies

170: LARGE MARGIN CLASSIFIER BASED ON HYPERDISKS

Hakan Cevikalp, Eskisehir Osmangazi University

239: The ROC-Boost Design Algorithm for Asymmetric Classification

Guido Cesare, Roberto Manduchi, UCSC

255: Machine Learning for Seismic Signal Processing: Seismic Phase Classification on a Manifold

Juan Ramirez Jr., Francois Meyer, University of Colorado at Boulder

Honolulu Suite 3– Special Session 9

Machine Learning Methods in Cancer Diagnosis and Treatment

Chair: *Issam El Naqa, McGill University, Canada*

198: 3D Bayesian Tracking with a Single Imager for Real-Time Image Guidance in Prostate Radiation Therapy

Ruijiang Li, Benjamin Fahimian, Lei Xing, Stanford University

280: The combination of clinical, dose-related and imaging features helps predict radiation-induced normal-tissue toxicity in lung-cancer patients

Georgi Nalbantov, Maastricht University, Andre Dekker, MAASTRO Clinic, Evgueni Smirnov, Maastricht University, Dirk De Ruyscher, University Medical Centre Maastricht, Philippe Lambin, University Medical Centre Maastricht

301: Regional Normal Liver Tissue Density Changes in Patients Treated with Stereotactic Body Radiation Therapy for Liver Metastases

Moyed Miften, University of Colorado

338: An SVM Anomaly Detector for Radiotherapy Quality Assurance Using Machine Learning

Issam El Naqa, McGill University

03:40pm – 04:00pm Coffee Break

04:00pm – 05:40pm Posters (II)

Tapa Ballroom 2 – Posters

Chairs: *Dr. Lipyew Lim, University of Hawaii;*

Dr. Bo Luo, University of Kansas

06:00pm – 08:00pm Banquet

Tuesday, December 20: 04:00 – 05:40

Tapa Ballroom 2– Poster (II)

140: Solving the Traveling Salesman Problem through Iterative Extended Changing Crossover Operators

Takahashi Ryouei, Hachinohe Institute of Technol

145: Introducing Flow Field Forecasting

Michael Frey, Bucknell University, Kyle Caudle, South Dakota School of Mines and Technology

165: Autoencoder in Time-Series Analysis for Unsupervised Tissues Characterisation in a Large Unlabelled Medical Image Dataset

Hoo-Chang Shin, Matthew Orton, David Collins, Simon Doran, Martin Leach, Institute of Cancer Research

173: Charge Prediction of Lipid Fragments in Mass Spectrometry

Brian Schrom, PNNL

174: Document Clustering for Forensic Computing: An Approach for Improving Computer Inspection

L. Filipe Nassif, Brazilian Federal Police; Eduardo Raul Hruschka, University of Texas

175: Adapting Polynomial Mahalanobis Distance for Self-supervised Learning in an Outdoor Environment

Ondrej Miksik, Brno University of Technology

180: A Pattern Classifying System Based on the Coverage Regions of Objects

Izumi Suzuki, Nagaoka University of Technolo

188: A GA-based Learning Algorithm for Inducing MofN-like Text Classifiers

Veronica Policicchio, Adriana Pietramala, Pasquale Rullo, University of Calabria

197: A Kernel Method for Real-Time Respiratory Tumor Motion Estimation Using External Surrogates

Ruijiang Li, Lei Xing, Stanford University

199: Developing an appropriate data normalization method

Balemir URAGUN, Ramesh Rajan, Monash University

206: Unsupervised K-Nearest Neighbor Regression

Oliver Kramer, University of Oldenburg

207: Relational Classifiers in a Non-relational world: Using Homophily to Create Relations

Sofus Macskassy, Fetch Technologies

212: Probabilistic Clustering Based on Langevin Mixture

Ola Amayri and Nizar Bguila, Concordia University

213: An Experimental Study to Investigate the Use of Additional Classifiers to Improve Information Extraction Accuracy

Hsiang Hui Lek, Danny C.C. Poo, NUS

223: Development of a beam source modeling technique for a flattening filter free (FFF) beam

Woong Cho, Catholic University of Korea, Kayla Kiehar, Stanford University, Ed Mok, Stanford University, Lei Xing, Ruijiang Li, Stanford University, Jeong-Hoon Park, Catholic University of Korea, Won-Gyun Jung, Catholic.ac.kr, Tae-suk Suh, Catholic University of Korea

Tuesday, December 20: 04:00 – 05:40

Tapa Ballroom 2 – Poster (II)

241: Kernel Methods for Minimum Entropy Encoding

Marco Gori, University of Siena, Stefano Melacci, University of Siena

258: Using Machine Learning to Detect Cyberbullying

Kelly Reynolds, April Kontostathis, Lynne Edwards, Ursinus College

272: Discovering Clusters with Arbitrary Shapes and Densities in Data Streams

Amr Ahmed, Noha Yousri, Nagwa El-Makky, Alexandria University

274: Multiple Nonlinear Subspace Methods Using Subspace-based Support Vector Machines

Takuya Kitamura, Shigeo Abe, Yusuke Tanaka Toyama national college

277: On a Distributed Approach for Density-based Clustering

Nhien An Le Khac, M-Tahar Kechadi, University College Dublin

281: Book Recommendation Signage System Using Silhouette-based Gait Classification

Masahiko Mikawa, Soichi Izumi, Kazuyo Tanaka, University of Tsukuba

290: Learning to Tag from Logic Constraints in Hyperlinked Environments

Michelangelo Diligenti, Claudio Sacca, Marco Gori, Marco Maggini, University of Siena

311: Tactile Sensor System Processing Based On K-means Clustering

Harry Chan-Maestas, Don Sofge, Rochester Institute of Technology

318: Deep Transfer Learning via Restricted Boltzmann Machine for Document Classification

Jian Zhang, Louisiana State University

321: Hybrid Evolution of Convolutional Networks

Brian Cheung and Carl Sable, Cooper Union

324: Improving the Accuracy of Learning with Small Sample sets in Absence of Useful Prior Knowledge

Asghar Dehghani and Andrew Sung, New Mexico Institute of Mining and Technology

330: The Biased Multi-Objective Optimization using the Reference Point: toward the industrial logistics network

E Azuma, K Takadama, H Sato, Kiyohiko Hattori, The University of Electro-Communication

334: Graph Based Gene Normalization

Ryan Sullivan, Robert Leaman, Graciela Gonzalez, Arizona State University

361: Web Ad-Slot Offline Scheduling Using an Ant Colony Algorithm

Vasile Palade, Univ. of Oxford and Soumya Banerjee, Birla Institute of Technology

370: Rule Extraction Using Sub-Space Grids for Microarray Classification

Arif Wani, California State University

Wednesday, December 21

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech

The Future of Web Search: Empowering People with Knowledge



Dr. Wei-ying Ma, Deputy Managing Director, Microsoft Research Asia

In recent years, we have experienced several trends that are changing the landscape of the Web and search. For example, emerging consumer devices such as smartphones and tablets are increasingly driving user activities into apps and services that offer superior capabilities for the completion of tasks. In addition, many such technologies do not necessarily live inside the traditional web browser. The new generation of mobile devices, equipped with a variety of sensors and location-based technologies, is connecting people to information not only in the virtual world, but also in the physical world by bridging between the two. Social networks are also being integrated into search, making it easier to find answers and share information, while natural user interface technologies such as touch, voice, and gesture recognition are creating yet further entry points for information access beyond the traditional search box. In this talk, I will discuss these trends and their profound impact on how people interact with information in their daily lives.

Wednesday, December 21

09:00am – 10:20am

Tapa Ballroom #3 – Keynote Speech

The Future of Web Search: Empowering People with Knowledge

Dr. Wei-ying Ma, Deputy Managing Director, Microsoft Research Asia

10:20am – 10:40am Coffee Break

10:40am – 12:20pm

Honolulu Suite 1 – Oral 9

Reinforcement Learning (session Chair: Moamar Sayed-Mouchaweh)

214: Bootstrap Learning and Augmented Reinforcement Learning for Robust Performance in Agent Domains

Mohan Sridharan, Texas Tech University

285: State Aggregation by Growing Neural Gas for Reinforcement Learning in Continuous State Spaces

Michael Baumann, University of Paderborn

303: Smartphone interruptibility using density-weighted uncertainty sampling with reinforcement learning

Robert Fisher, Reid Simmons, Carnegie Mellon University

183: Improving the Discovery and Characterization of Hidden Variables by Regularizing the LO-net

Soumi Ray, NIH, and Tim Oates, University of Maryland Baltimore County

Honolulu Suite 2 – Oral 10

Machine Learning Applications (Session Chair: Chi-Man Pun)

146: Improving Classifier Performance by Autonomously Collecting Background Knowledge from the Web

Kane See, InferLink, Steven Minton, InferLink Corporation; Sofus Macskassy, Matthew Michelson, Bora Cenk, Fetch Technologies; Lise Getoor, Department of Computer Science, University of Maryland

154: Multiple sources classification of gene position on chromosomes using statistical significance of individual classification results

Loai Alnemer, Charith Chitraranjan, Omar Al-Azzam, Anne Denton, Shahryar Kianian, muhammad Iqbal, Filippo Bassi, NDSU

158: Max-Coupled Learning: Application To Breast Cancer

Jaime Cardoso, Ines Domingues, INESC Porto

162: Network-based Filtering of Unreliable Markers in Genome Mapping

Omar Al-Azzam, Loai Alnemer, Charith Chitraranjan, Anne Denton, Ajay Kumar, Filippo Bassi, muhammad Iqbal, Shahryar Kianian, NDSU

Wednesday, December 21

10:40am – 12:20pm

Honolulu Suite 3 – Special Session 10

Learning on the Web

Chair: Bo Luo, University of Kansas, USA

178: Multiple Kernel Learning on Time Series Data and Social Networks for Stock Price Prediction

Shangkun Deng, Takashi MITSUBUCHI, Kei SHIODA, Akito SAKURAI, Tatsuro SHIMADA, Keio University

210: An Automatic Multi-Domain Thesauri Construction Method Based on LDA

Na Ni, Institute of Automation, CAS, Kai Liu, Yaodong Li,

273: Collaborative Filtering with CCAM

Chia-Hui Chang, Rui-Zhe Liu, Meng-Lun Wu, National Central University

292: Learning to Rank using Markov Random Fields

Michelangelo Diligenti, Antonino Freno, Tiziano Papini, University of Siena

365: Exploring Structural Features in Predicting Social Network Evolution

Shu Huang, Dongwon Lee, Penn State University

02:00pm – 03:40pm

Honolulu Suit 1 – Special Session 11

Machine Learning in Energy Application (I)

Session chair: Ilhami Colak, Gazi University, Turkey

194: An N-Dimensional Neural Network tool for the real-time optimisation of accelerator parameters

Evelyne Meier, Robbie Clarcken, Greg Leblanc, Australian Synchrotron

195: Extraction of Basic Patterns of Household Energy Consumption

Hideitsu Hino, Haoyang Shen, Noboru Murata, Shinji Wakao, Waseda University

219: Performance analysis of a hydrofoil with and without Leading edge slat

Tahir Yavuz, Birol, Hursit, Baskent Univ.

220: A measure of credibility of solar power prediction

Hideitsu Hino, Haoyang Shen, Noboru Murata, Shinji Wakao, Waseda University

222: A New Control Method for dc-dc Converter by Neural Network Predictor with Repetitive Training

Fujio Kurokawa, Kimitoshi Ueno, Hidenori Maruta, Nagasaki University; Hiroyuki Osuga, Mitsubishi Electric Corporation

Wednesday, December 21

Tapa Ballroom #3– Workshop (I)

Mobile Communication (Chair: Balmir Uragun)

368: Business Identification Based on Robust Text Recognition Guided by Business Directories

Amir Roshan Zamir, UCF

369: Energy efficiency for unmanned aerial vehicles

Balemir Uragun, Turkish Aerospace Industries, Inc., Turkey

381: Arabic Text-Dependent Speaker Verification for Mobile Devices Using Artificial Neural Networks

Abdulrahman Alarifî, Issa Alkurtass, King Abdulaziz City for Science and Technology, Saudi Arabia; AbdulMalik S. Al-Salman, King Saud University, Saudi Arabia

384: Comparisons of machine learning algorithms for application identification of encrypted traffic

Y Okada, S Ata, N Nakamura, Y Nakahiray, and I Oka, Osaka City University, Japan

379: Estimation of PSF for a Shaking Blurred Image Using GA

Takumi Shimomukai, Michifumi Yoshioka, Hidekazu Yanagimoto, Osaka Prefecture University

Honolulu Suite 2– Workshop (II)

Data Analysis (Chair: Latifa Oukhellou)

373: Semi-supervised feature extraction using independent factor analysis

L Oukhellou, E Côme, P Aknin, Thierry Denoeux, Department Heudiasyc, Université Paris-Est, France

Empirical Normalization for Quadratic Discriminant Analysis and Classifying Cancer Subtypes

Mark Kon and Nikolay Nikolaev, Boston University

382: Structures multivariate pattern classification to detect MRI markers for an early diagnosis of Alzheimer's disease

C. Damon, E. Duchesnay, and M. Depecker, CEA, France

383: Choosing best fitness function with reinforcement learning

Arina Afanasyeva, Maxim Buzdalov, National Research University, Russia

385: Combining corpus-based features for learning best natural language sentences

Foad Khosmood, California Polytechnic State University, USA; Robert Levinson, University of California at Santa Cruz, USA

378: SVM multi-classification of T2D/CVD patients using biomarker features

Sai Buddi, Thomas Taylor, Chad Borges, Randall Nelson, Arizona State University, USA

Honolulu Suit 3 - Tutorial 4

03:40pm – 04:00pm Coffee Break

Wednesday, December 21

04:00pm – 05:40pm

Honolulu Suite 1 – Special Session 12

Machine Learning in Energy Application (II)

Session chair: Ilhami Colak, Gazi University, Turkey

336: Anomaly Detection for Clean Energy Resources Prediction and Power Consumption Forecast in the Smart Grid

Bonnie Zhu, UC Berkeley and Shankar Sastry, UC Berkeley

337: Transient States of the Multiscalar Controlled Double Fed Induction Generator in the Wind Farm

Piotr Kolodziejek, Gdansk University of Technology

348: An Intelligent Decision Support Tool for a Travelling Wave Ultrasonic Motor Based on k-Nearest Neighbor Algorithm

Seref Sagiroglu, HAMDİ TOĞLA KAHRAMAN, KARADENİZ TEKNİK UNIVERSİTESİ; Mehmet Yesilbudak, Nevşehir University; ILHAMI COLAK, Gazi University

353: An Intelligent Power Factor Correction Approach Based on Linear Regression and Ridge Regression Methods

Ramazan Bayindir

Honolulu Suite 2 – Workshop (III)

Machine Learning Applications (Chair: Ahmed Elmorshidy)

372: Benefits analysis of live customer support chat in e-commerce websites: dimensions of a new success model for live customer support chat

A Elmorshidy, Claremont Graduate University, USA, Gulf University for Science & Technology, Kuwait

374: Robust FCMdd-based linear clustering for relational data with alternative c-means criterion

akeshi Yamamoto, Katsuhiko Honda, Akira Notsu, Hidetomo Ichihashi, Osaka Prefecture University, Japan

380: Extended finite-state machine induction using SAT-solver

Vladimir Ulyantsev, Fedor Tsarev, National Research University of Information, Russia

386: Implementation of parameter space search for meta learning in a data-mining multi-agent system

Ondrej Kazık, Klára Pesková, Martin Pilát, Charles University, Czech Republic; Roman Neruda, Academy of Sciences of The Czech Republic

387: An iris recognition approach based on fuzzy support vector machine

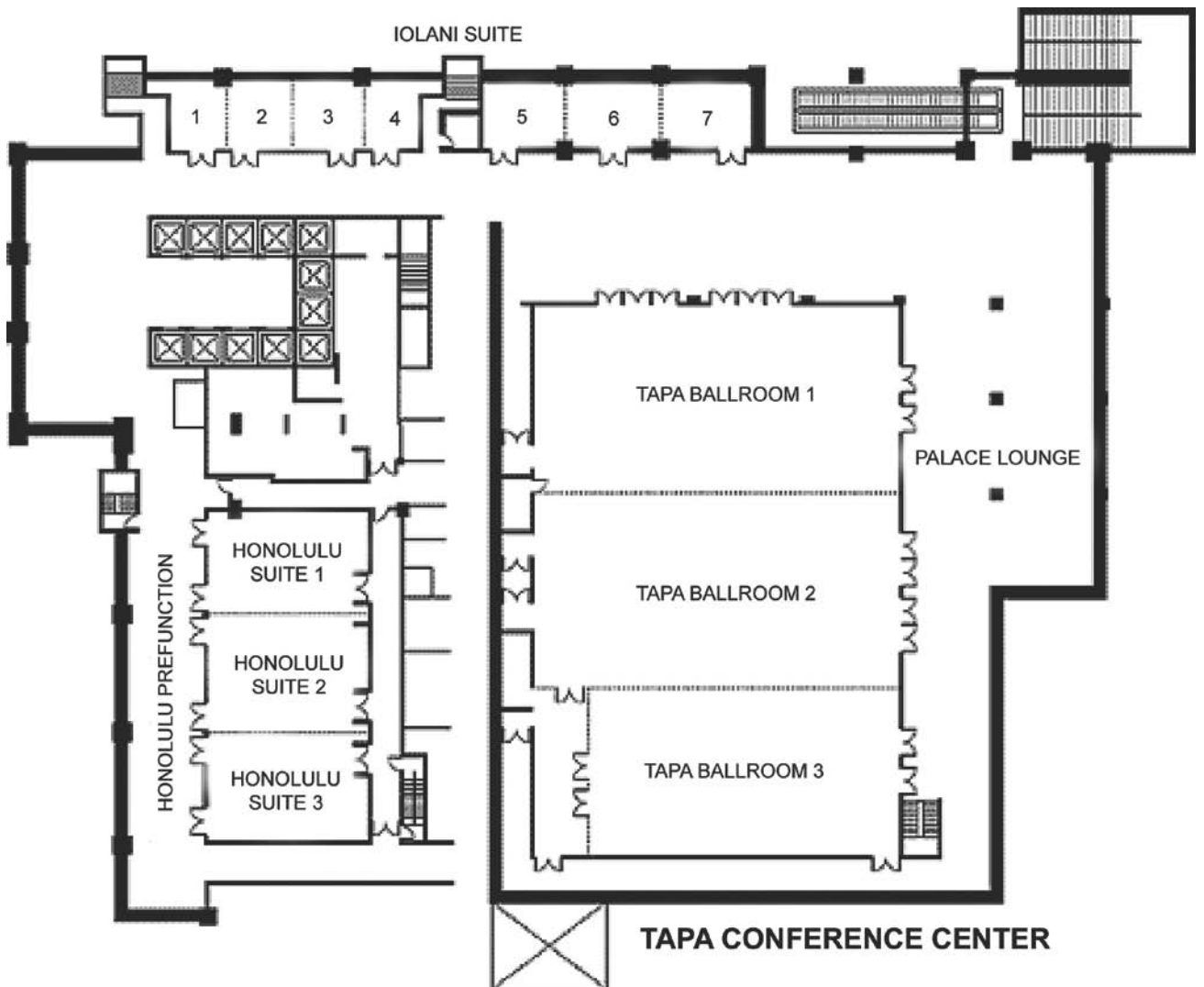
Hongying Gu, Cheng Yang, Institute of Artificial Intelligence, China

Honolulu Suite 3 - Tutorial 4 (cont.)

Statistical Relational Learning

Dr. Pedro Domingos, University of Washington

Conference Floorplan



Hilton Hawaiian Village Beach Resort & Spa

PROPERTY MAP



