IEEE IRI 2017 Agenda

Day 1: Friday, August 4, 2017

8:30 – 8:45 a.m. Welcome, Conference Opening Remarks
Location: (Connections 1)

8:45 – 9:45 a.m. Keynote 1
Location: (Connections 1)

**Building Cognitive Information Systems**
Heiko Ludwig
Research Staff Member/Manager Ubiquitous Platforms, Almaden Research Center, San Jose, CA, USA

9:45 – 10 a.m. Break
Location: (Compass 2)

10 a.m. – Noon Sessions & Workshops

**Session A11: Security and Privacy**
Chair: **Thouraya Bouabana Tebibel**
Location: (Navigator)

- **Towards Managing Complex Data Sharing Policies with the Min Mask Sketch**
  Stephen Smart (University of Oklahoma, USA), Christian Grant (University of Oklahoma, USA)
- **Cyber-Secure UAV Communications using Heuristically Inferred Stochastic Grammars and Hard Real-Time Adaptive Waveform Synthesis and Evolution (Invited Paper)**
  Stuart Rubin (Space and Naval Warfare Systems Center Pacific, USA), William Grefe (Space and Naval Warfare Systems Center Pacific, USA), Thouraya Bouabana-Tebibel (Ecole Nationale Supérieure d'Informatique, LCSI Laboratory, ALGERIA), Shu-Ching Chen (Florida International University, USA), Mei-Ling Shyu (University of Miami, USA), Kenneth Simonsen (Space and Naval Warfare Systems Center Pacific, USA)
- **Access Control Models for Virtual Object Communication in Cloud-Enabled IoT (Invited Paper)**
  Asma Alshehri (UTSA), Ravi Sandhu (University of Texas at San Antonio)
- **Malware Collection and Analysis (Invited Paper)**
  Ramkumar Paranthaman (Texas at Dallas Richardson), Bhavani Thuraisingham (Texas at Dallas Richardson)
Session A12: Modeling and Mining

Chair: Latifur Khan
Location: (Connections 2)

- Unsupervised Terminological Ontology Learning based on Hierarchical Topic Modeling
  Xiaofeng Zhu (Northwestern University), Diego Klabjan (Northwestern University), Patrick Bless (Intel Corporation)

- Extracting Knowledge from Technical Reports for the Valuation of West Texas Intermediate Crude Oil Futures
  Joseph Prusa (Florida Atlantic University), Ryan Sagul (Florida Atlantic University), Taghi M. Khoshgoftaar (Florida Atlantic University), Michael Sterling (Florida Atlantic University)

- Business Objects plus (BO+): An Approach to Enhance Service Reuse and Integration in Cross-Domain SOA Compounds
  Jan Königsberger (Graduate School advanced Manufacturing Engineering), Bernhard Mitschang (University of Stuttgart)

- On Using Disparate Scholarly Data to Identify Potential Member for Interdisciplinary Research Groups
  Frank Osuna (University of Texas at El Paso), Monika Akbar (University of Texas at El Paso), Ann Gates (University of Texas at El Paso)

IEEE International Workshop on Information Integration in Cyber Physical Systems (IICPS)

Chair: Massimiliano Albanese
Location: (Connections 3)

- Traffic Surveillance System for Bridge Vibration Analysis (Regular Paper)
  Takaya Kawakatsu (The University of Tokyo, Japan), Kenro Aihara, Atsuhiro Takasu, Jun Adachi (National Institute of Informatics)

- Blockchain-assisted Information Distribution for the Internet of Things (Regular Paper)
  George C. Polyzos, Nikos Fotiou (Athens University of Economics and Business, Greece)

- A Collaborative Robotic Cyber Physical System for Surgery Applications (Regular Paper)
  Daniela D’Auria (University of Naples, Italy), Fabio Persia (Free University of Bolzano-Bozen, Italy)

- Active Dependency Mapping: A Data-Driven Approach to Mapping Dependencies in Distributed Systems (Regular Paper)
  Alexia Schulz, Michael Kotson, Chad Meiners, Timothy Meunier (MIT Lincoln Laboratory, USA), David O’Gwynn (Belhaven University, USA), Pierre Trepagnier, David Weller-Fahy (MIT Lincoln Laboratory, USA)

Noon – 1:30 p.m.    Lunch (Compass 2)

1:30 – 2:30 p.m.    Keynote 2
Location: (Connections 1)

Standing on the Shoulders of Giants: Reuse and Integration as the Pipeline of Naval Technology
Stephen Russell
Director of Science and Technology, Chief Technology Officer, Space and Naval Warfare Systems Command
Director, Science and Technology Department, Space and Naval Warfare Systems Center Pacific
2:30 – 2:45 p.m.  
Break
Location: (Compass 2)

2:45 – 4:45 p.m.  
Sessions & Workshops

Session A2: Decision Support
Chair: Monika Akbar
Location: (Navigator)

- **Automated Dynamic Negotiation over Environmental Issues**  
  Faeezeh Eshragh (University of Calgary), Mozhdeh Shahbazi (University of Calgary), Behrouz Far (University of Calgary)

- **A Scalable Spark-Based Fault Diagnosis Platform for Gearbox Fault Diagnosis in Wind Farms**  
  Maryam Bahojb Imani (University of Texas at Dallas), Mehrdad Heydarzadeh (University of Texas at Dallas), Mehrdad Nourani (University of Texas at Dallas), Latifur Khan (The university of Texas at Dallas)

- **A Cyber-Provenance Infrastructure for Sensor-Based Data-Intensive Applications**  
  Elisa Bertino (Purdue University) Murat Kantarcioglu (University of Texas at Dallas)

Session APP1: Applications: Detection
Note: the presentation for application papers should be limited to 20 min including Q&A.
Chair: Ali Hurson
Location: (Connections 2)

- **Constructing Financial Sentiment Lexicons by Integrating Textual and Time-Series Data**  
  Kazuhiro Seki (Konan University)

- **Towards using KDD for an interactive software architecture extraction**  
  Mira abboud (University of Nantes), Hala Naja (Lebanese University), Mourad Oussalah (University of Nantes), Mohamad Dbouk (Lebanese University)

- **Fresh-Phish: A Framework for Auto-Detection of Phishing Websites**  
  Hossein Shirazi (Colorado State University), Kyle Haefner (Colorado State University), Indrakshi Ray (Colorado State University)

- **Mining Social Media Data Using Topological Data Analysis**  
  Khaled Almgren (University of Bridgeport), Minkyu Kim (ASML), Jeongkyu Lee (University of Bridgeport)

- **User Behavior Anomaly Detection for Application Layer DDoS Attacks**  
  Maryam Najafabadi (Florida Atlantic University), Taghi M. Khoshgoftaar (Florida Atlantic University), Chad Calvert (Florida Atlantic University), Clifford Kemp (Florida Atlantic University)

- **Species Distribution Modelling with Scalability: The Case Study of P-GARP, a Parallel Genetic Algorithm for Rule-set Production**  
  Fabiana Santana (University of Canberra)
IEEE International Workshop on Data Integration and Mining (DIM)

Chairs: Qiusha Zhu and Mei-Ling Shyu
Location: (Connections 3)

- **A Hybrid Machine Learning Method for Finding Depression Related Publications by Eliminating Outlier Publications**
  Zhibo Wang (Georgia State University), Long Ma (Georgia State University), and Yanqing Zhang (Georgia State University)

- **Refining Tree Cover Type Classification with Naïve Bayes, Decision Tree, K-Nearest Neighbor, and Neural Network Machine Learning Models**
  Duncan MacMichael (University of Washington, Bothell) and Dong Si (University of Washington, Bothell)

- **An Architecture Application for the Internet of Things and the Use of Big Data Techniques on CO Analysis in Sao Paulo City**
  Marco Aurelio Borges (Universidade Presbiteriana Mackenzie), Leandro A. Silva (Universidade Presbiteriana Mackenzie), Paulo Batista Lopes (Universidade Presbiteriana Mackenzie), and Massaki de O. Igarashi (Universidade Presbiteriana Mackenzie)

- **A Software Solution for Preventing Alzheimer's Disease based on MapReduce Framework**
  Manal Zettam (University Kenitra Morocco), Jalal Laassiri (University Kenitra Morocco), and Noureddine Enneya (University Kenitra Morocco)

**5:30 – 6:30 p.m.  Reception**
Location: (Pool Patio)
Day 2: Saturday, August 5, 2017

8:45 – 9:45 a.m.  Keynote 3
Location: (Connections 1)
Security and Privacy in the IoT
Elisa Bertino
Professor, Department of Computer Science,
Purdue University, West Lafayette, Indiana, USA

9:45 – 10 a.m.  Break
Location: (Compass 2)

10 a.m. – Noon  Sessions & Workshops

Session B11: Diagnosis and Prediction
Chair: Sahra Sedighsarvestani
Location: (Navigator)

- FA-MCADF: Feature Affinity based Multiple Correspondence Analysis and Decision Fusion Framework for Disaster Information Management
  Haiman Tian (Florida International University), Shu-Ching Chen (Florida International University), Stuart H. Rubin (Space and Naval Warfare Systems Center Pacific, San Diego, CA, USA), William K. Grefe (Space and Naval Warfare Systems Center Pacific, San Diego, CA, USA)
- Link Prediction and Hybrid Strategies for Updating a Social Graph Snapshot via a Limited API
  Norases Vesdapunt (Stanford University), Hector Garcia-Molina (Stanford University)
- Detecting Small Signs from Large Images (Invited Paper)
  Zibo Meng (University of South Carolina), Xiaochuan Fan (HERE), Xin Chen (HERE), Min Chen (UW), Yan Tong (University of South Carolina)
- EARRING: Efficient Authentication of Outsourced Record Matching
  Boxiang Dong (Montclair State University), Hui (Wendy) Wang (Stevens Institute of Technology)

Session B12: Knowledge Representation and Management
Chair: Sampath JAAarathna
Location: (Connections 2)

- GFEL: Generalized Feature Embedding Learning Using Weighted Instance Matching
  Eric Golinko (Florida Atlantic University), Xingquan Zhu (Florida Atlantic University)
- Accelerated Sparse Representation for Human Activity Recognition
  Long Cheng (Kiwi Power Technology Corporation), Yani Guan (Rensselaer Polytechnic Institute), Kecheng Zhu (Rensselaer Polytechnic Institute), Yiyang Li (Rensselaer Polytechnic Institute), Ruokun Xu (University of Wisconsin-Madison)
- A Multi-Stage Approach to Personalized Course Selection and Scheduling (Invited Paper)
  Tyler Morrow (Sandia National Laboratories), Ali Hurson (Missouri University of Science & Technology), Sahra Sedigh Sarvestani (Missouri University of Science & Technology)
- Colored Petri net Representation of Logical and Decisive Passing Algorithm for Humanoid Soccer Robots
  Kieutran Pham (The College of New Jersey), Chelsea Cantone (The College of New Jersey), Seung-yun Kim (The College of New Jersey, School of Engineering)
IEEE International Workshop on Formal Methods Integration (FMi) – Part One

Chair: Thouraya Bouabana-Tebibel
Location: (Connections 3)

- Upgrade of HA systems: formal methods at rescue (Invited Paper)
  Oussama Jebbar (Concordia University, Canada), Ferhat Khendek (Concordia University, Canada) and Maria Toeroe (Ericsson, Canada)

- Probabilistic Analysis Applied to Cleaning Robots (Regular Paper)
  Rafael Araujo, Alexandre Mota and Sidney Nogueira (Federal University of Pernambuco, Brazil)

- A Symbolic Rewriting Semantics of the COMPASS Modeling Language (Regular Paper)
  Musab A. Alturki (King Fahd University, Saudi Arabia)

- A phenomenal basis for hybrid modelling (WIP Paper)
  Jon G. Hall (The Open University, UK), Lucia Rapanotti (The Open University, UK) and Georgi Markov (Siemens, USA)

Noon – 1:30 p.m.         Lunch (Compass 2)

1:30 – 2:30 p.m.           Application Sessions
Note: the presentation for application papers should be limited to 20 min including Q&A.

Session APP2: Applications: Social Media and Users
Chair: Latifur Khan
Location: (Connections 2)

- Analysis and Modeling of Unified User Interests
  Sampath Jayarathna (California State Polytechnic University Pomona)
- Analysis of Performance Variability in Public Cloud Computing
  Fabiana Santana (University of Canberra)
- Model-Oriented Web Service Implementations Compared to Traditional WS
  Thiago Gottardi (Universidade de São Paulo), Rosana Braga (Universidade de São Paulo)

Session APP3: Applications: AI and Machine Learning
Chair: Taghi Khoshgoftaar
Location: (Connections 3)

- Modified Convolutional Neural Network for Highly Effective Parallel Processing
  Sang-Soo Park (Hanyang University), Jung-Hyun Hong (Hanyang University), Ki-Seok Chung (Hanyang University)
- An Automated Approach for Information and Referral of Social Services using Machine Learning
  Madhav Sharan (USC), Nithin Krishna (USC), Chris Mattmann (211 Los Angeles County), Karanjeet Singh (USC), Maribel Marin (211 Los Angeles County), Amy Latzer (211 Los Angeles County), Colin Foon (211 Los Angeles County), Umesh Handore (211 Los Angeles County)
- Analysis of Transfer Learning Performance Measures
  Karl Weiss (Florida Atlantic University), Taghi M Khoshgoftaar (Florida Atlantic University)
2:30 – 2:45 a.m.  Break
Location: *(Compass 2)*

2:45 – 4:45 p.m.  Sessions & Workshops

**Session B2: Learning**
Chair: **Balaji Palanisamy**
Location: *(Navigator)*

- **Comparison of Visual Datasets for Machine Learning (Invited Paper)**
  Kent Gauen (Purdue University), Ryan Dailey (Purdue), John Laiman (Purdue University), Yuxiang Zi (Purdue University), Nirmal Asokan (Purdue University), Yung-Hsiang Lu (Purdue University), George Thiruvathukal (Loyola University Chicago), Mei-Ling Shyu (University of Miami), Shu-Ching Chen (Florida International University)
- **AAFA: Associative Affinity Factor Analysis for Bot Detection and Stance Classification in Twitter**
  Saad Sadiq (University of Miami- Miller school of medicine), Yilin Yan (University of Miami), Asia Taylor (University of Miami), Mei-Ling Shyu (University of Miami), Shu-Ching Chen (Florida International University), Daniel Feaster (University of Miami)
- **Using Weather and Playing Surface to Predict the Occurrence of Injury in Major League Soccer Games: A Case Study (Paper from Workshop on Health Informatics)**
  Sara Landset (Florida Atlantic University), Michael F. Bergeron (SIVOTEC Analytics), Taghi M. Khoshgoftaar (Florida Atlantic University)
- **Documentation Reuse: Managing Similar Documents (Poster Presentation)**
  Stan Jarzabek (Technical University of Bialystok), Daniel Dan (Info-Software Systems ST Electronics Pte. Ltd)

Chairs: **Min-Yuh Day, Yoshinobu Kano and Chuan-Jie Lin**
Location: *(Connections 2)*

- **Visualization Analysis of Medical Resource Utilization for Long-term Care Services**
  Kuo-Chung Chu (National Taipei University of Nursing and Health Sciences) and Peng-Hua Jiang (National Taipei University of Nursing and Health Sciences)
- **Deep Learning for Sentiment Analysis on Google Play Consumer Review**
  Min-Yuh Day (Tamkang University) and Yue-Da Lin (Tamkang University)
- **Heuristics-Based Schema Extraction for Deep Web Query Interfaces**
  Chichang Jou (Tamkang University) and Yucheng Cheng (Tamkang University)
- **Constructing Hierarchical Product Categories for E-commerce by Word Embedding and Clustering**
  Yi-Hsiang Hsieh (Chaoyang University of Technology)), Shih-Hung Wu (Chaoyang University of Technology), Liang-Pu Chen (Institute for Information Industry), and Ping-Che Yang (Institute for Information Industry)
Francesco Leofante (RWTH Aachen University, Germany), Erika Ábraháam (RWTH Aachen University, Germany), Tim Niemueller (RWTH Aachen University, Germany), Gerhard Lakemeyer (RWTH Aachen University, Germany) and Armando Tacchella (University of Genoa, Italy)

Performance Analysis of Apache Storm Applications using Stochastic Petri Nets (Regular Paper)
Jose Ignacio Requeno (University of Zaragoza, Spain), José Merseguer (University of Zaragoza, Spain) and Simona Bernardi (Defense University Center, Spain)

On the Verification of UML State Machine Diagrams to Colored Petri Nets Transformation using Isabelle/HOL (Regular Paper)
Said Meghzili (University of Constantine 2, Algeria), Allaoua Chaoui (University of Constantine 2, Algeria), Martin Strecker (University of Paul Sabatier, France) and Elhilali Kerkouche (University of Jijel, Algeria)

5:30 – 9:30 p.m. Banquet & Awards Ceremony
Location: (Compass 2)
Day 3: Sunday, August 6, 2017

8:30 – 9:45 a.m.       Keynote 4
Location: (Connections 1)

*The Autonomous Intelligence Project*

**Stuart Rubin**
Senior Scientist,
SPAWAR Systems Center Pacific (SSC-Pacific), San Diego, CA

9:45 – 10 a.m.        Break
Location: (Compass 2)

10 a.m. – Noon   Industry/Gov Session & Workshop

**Industry/Gov Session**
Chair: Chengcui Zhang
Location: (Navigator)

*The Challenges and Solutions for Building an Integrated Video Analytics Platform*

George Mathew
MIT Lincoln Lab

*Predicting the Users' Clickstreams Using Time Series Representation, Symbolic Sequences, and Deep Learning: Application on Job Offers Recommendation Tasks*

Sidahmed Benabderrahmane
Paris Dauphine University, France

*Sharpest Tool in the Hadoop Toolbox*

Hui Liu
Florida Atlantic University
Xingquan Zhu
Florida Atlantic University
Kristopher Kalish
Bidtellect Inc.
Jeremy Kayne
Bidtellect Inc.

Session C1: Social Media and Users
Chair: **Min-Yuh Day**
Location: (Connections 2)

- **Enhancing Yelp Data with Deep Learning and Information Reuse**
  Roberto Camacho Barranco (University of Texas at El Paso), Laura M. Rodriguez (University of Texas at El Paso), Rebecca Urbina (University of Texas at El Paso), M. Shahriar Hossain (University of Texas at El Paso)

- **Automated Detection of Religious Content in Intelligent Design Social Media**
  George Montanez (Carnegie Mellon University)

- **Infusing Latent User-Concerns from User Reviews into Collaborative Filtering**
  Ligaj Pradhan (UAB Dept. of Computer and Information Sciences), Chengcui Zhang (The University of Alabama at Birmingham), Steven Bethard (University of Arizona, USA)
IEEE First International Workshop on
Social Media Networks Analytics and Applications (SMA2) – Part One
Chairs: Vincenzo Moscato and Antonio Picariello
Location: (Connections 3)

• Predicting Market Revenue Using Social Media Data
  Steve Shim (California State University, Los Angeles, USA), Mohammad Pourhomayoun
  (California State University, Los Angeles, USA)

• Discovering Mobility Patterns of Instagram Users through Process Mining Techniques
  Claudia Diamantini (Università Politecnica delle Marche, Italy), Laura Genga (Università Politecnica delle Marche, Italy), Fabrizio Marozzo (Università della Calabria, Italy), Domenico Potena (Università Politecnica delle Marche, Italy), Paolo Trunfio (Università della Calabria, Italy)

• Modelling Multimedia Social Networks using Labelled Semantic Based Graph
  Antonio M. Rinaldi (Università degli Studi di Napoli "Federico II", Italy), Enrico G. Caldarola
  (Università degli Studi di Napoli "Federico II", Italy)

• Influence analysis in online social networks using hypergraphs
  Flora Amato (Università degli Studi di Napoli "Federico II", Italy), Francesco Di Lillo (Università degli Studi di Napoli "Federico II", Italy), Vincenzo Moscato (Università degli Studi di Napoli "Federico II", Italy), Antonio Picariello (Università degli Studi di Napoli "Federico II", Italy), Giancarlo Sperli (Università degli Studi di Napoli "Federico II", Italy)

Noon – 1:30 p.m.  Lunch (On Your Own)

1:30 – 2:30 p.m.  Application Sessions
Note: the presentation for application papers should be limited to 20 min including Q&A.

Session APP4: Applications: Information Reuse
Chair: Balaji Palanisamy
Location: (Connections 2)

• Ensemble Maximum Entropy Classification and Linear Regression for Author Age Prediction
  Joey Hong (Caltech), Chris Mattmann (211 Los Angeles County), Paul Ramirez (NASA JPL)

• Toward Semantic Search for the Biogeochemical Literature
  Joshua Eisenberg (Florida International University), Deya Banisakher (Florida International University), Maria Presa (Florida International University), Kalli Unthank (Florida International University), Mark Finlayson (FLU), Shu-Ching Chen (Florida International University), Rene Price (Florida International University)

• Entropy in Design Phase: a Higraph-Based Model Approach
  Hycham ABOUTALEB (ENSTA ParisTech)
Session APP5: Applications: Data Analytics
Chair: Sahra Sedighsarvestani
Location: (Connections 3)

- An effective LmRMR for financial variable selection and its applications
  Sara Aghakhani (University of Calgary), Reda Alhajj (University of Calgary), John Rokne (University of Calgary), Philip Chang (University of Calgary)
- Learning Profiles in Duplicate Question Detection
  Chakaveh Saedi (University of Lisbon), João Rodrigues (University of Lisbon), João Silva (University of Lisbon), António Branco (University of Lisbon), Vladislav Maraev (University of Lisbon)
- Modernizing Analytics for Melanoma with a Large-Scale Research Dataset
  Aaron Richter (Florida Atlantic University), Taghi Khoshgoftaar (Florida Atlantic University)

2:30 – 2:45 p.m.  Break
Location: (Compass 2)

2:45 – 4:45 p.m  Sessions & Workshop

Session C2: Classification and Processing
Chair: Taghi Khoshgoftaar
Location: (Connections 2)

- Estimating Outlier Score Probabilities
  Richard Bauder (Florida Atlantic University), Taghi M. Khoshgoftaar (Florida Atlantic University)
- Schemaless Join for Result Set Preferences
  Chuancong Gao (Simon Fraser University), Jian Pei (Simon Fraser University), Jiannan Wang, SFU), Yi Chang (Huawei Research)
- Medical Provider Specialty Predictions for the Detection of Anomalous Medicare Insurance Claims
  Matthew Herland (Florida Atlantic University), Richard Bauder (Florida Atlantic University), Taghi M. Khoshgoftaar (Florida Atlantic University)
- Knowledge Amplification through Randomization for Scheduling Systems
  Thouraya Bouabana-Tebibel (Ecole Nationale Supérieure d'Informatique, LCSI Laboratory, Algeria), Stuart Rubin (Space and Naval Warfare Systems Center Pacific, San Diego, CA, USA), Miled B. Bentaiba (Ecole Nationale Supérieure d'Informatique, LCSI Laboratory, Algeria), Abdelghani Allaoua (Ecole Nationale Supérieure d'Informatique, LCSI Laboratory, Algeria), Ahcèn Boumhand (Ecole Nationale Supérieure d'Informatique, LCSI Laboratory, Algeria)
IEEE First International Workshop on
Social Media Networks Analytics and Applications (SMA2) – Part Two
Chairs: Vincenzo Moscato and Antonio Picariello
Location: (Connections 3)

- Effective Information Spreading In Social Networks
  Nunziato Cassavia (ICA-CNR, Italy), Elio Masciari (ICA-CNR, Italy), Domenico Sacca’ (Università della Calabria, Italy)

- Measuring polarization in Twitter enabled in online political conversation: The case of 2016 US Presidential election
  Simonetta Primario (Università degli Studi di Napoli “Federico II”, Italy), Dario Borrelli (Università degli Studi di Napoli “Federico II”, Italy), Luca Iandoli (Università degli Studi di Napoli “Federico II”, Italy), Giuseppe Zollo (Università degli Studi di Napoli “Federico II”, Italy), Carlo Lipizzi (Stevens Institute of Technology, USA)

- A Survey of Online Social Networks: Challenges and Opportunities
  Fabio Persia (Free University of Bozen, Italy), Daniela D’Auria (Free University of Bozen, Italy)