

IEEE IRI 2021 Program

Time Zone: Las Vegas local time (Pacific Time Zone PDT)

IEEE IRI Conference Day 1: Tuesday, August 10, 2021

8:30-9:45am	<p>Welcome & Conference Opening Remarks (General Chairs, PC Chairs)</p> <p>Keynote 1: Shu-Ching Chen <i>Professor, School of Computing and Information Sciences, Florida International University, USA</i></p> <p>Multimedia Big Data Analytics for Data Science</p> <p>Session Chairs: Danda Rawat, Howard University, USA & Nan Niu, University of Cincinnati, USA</p> <p>Zoom Link: https://us02web.zoom.us/j/3614161065</p>
9:45 - 10:05 am	Coffee Break
10:05-11:25am	Session A1
	<p>Session A11</p> <p>Deep Learning I</p> <p>Session Chair: Wentao Wang, Oracle, USA</p> <p>Zoom Link: https://us02web.zoom.us/j/3614161065</p>
67 (18 min)	<p>A Deep Learning-based Traffic Event Detection from Social Media Jahnavi Jonnalagadda (George Mason University); Mahdi Hashemi (George Mason University)</p>
32 (18 min)	<p>CCFD-Net: A Novel Deep Learning Model for Credit Card Fraud Detection Xiao Liu (University of Sydney); Kuan Yan (Xiamen University); Zhenguo Nie (Tsinghua University)</p>
33 (18 min)	<p>Evaluating Deep Learning and Optimized Hyperparameters Random Forest for a DSS Samuel A. Ajila (Carleton University); Nidheesh Vijay (Carleton University)</p>
80 (18 min)	<p>Optimizing Deep Neural Network Architectures: An Overview Lydia Bouzar-Benlabiod (ESI); Stuart Rubin (Space and Naval Warfare Systems Center Pacific); Amel Benaida (ESI)</p>
	<p>Session A12</p> <p>Health and Wellness I</p> <p>Session Chair: Babajide Salau, Howard University, USA</p> <p>Zoom Link: https://us02web.zoom.us/j/6069105893</p>
64 (18 min)	<p>Detecting Anomalous User Behavior in Remote Patient Monitoring Deepti Gupta (University of Texas at San Antonio); Maanak Gupta (Tennessee Technological University); Smriti Bhatt (Texas A&M University-San Antonio); Ali Saman Tosun (University of Texas at San Antonio)</p>
41 (18 min)	<p>Statistical Modeling Using Bounded Asymmetric Gaussian Mixtures Application to Human Action and Gender Recognition Zixiang Xian (Concordia University); Muhammad Azam (Concordia University); Nizar Bouguila (Concordia University)</p>
83 (18 min)	<p>Agentless Insurance Model Based on Modern Artificial Intelligence Krishanu Prabha Sinha (State Farm Insurance); Mehdi Sookhak (Illinois State University); Shaoen Wu (Illinois State University)</p>
63 (15 min)	<p>Community-Connect: COVID-19 Small Business Marketplace with Automated Regulation Matching and Company Lead Retrieval</p>

	Erik Coltey (Florida International University); Shahin Vassigh (Florida International University); Shu-Ching Chen (Florida International University)
11:25am-1:30pm	Lunch Break
1:30 -2:50 pm	Session A2
	Session A21 Machine Learning and Reliability Session Chair: Danda Rawat, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065
21 (18 min)	A Hierarchical Nonparametric Bayesian Model Based on Scaled Dirichlet Distribution Narges Manouchehri (Concordia University); Ali Baghdadi (Concordia University); Nizar Bouguila (Concordia University)
82 (18 min)	Reliability-Aware Scheduling for Periodic Tasks Requiring (m,k)-firm Real-Time Data Processing Linwei Niu (Howard University)
2 (18 min)	Reliability of Convolutional Neural Networks: Failure Metrics with Metamorphic Test Cases Hemanth Gudaparth (University of Cincinnati); Nan Niu (University of Cincinnati); Boyang Wang (University of Cincinnati); Juha Savolainen (Danfoss)
18 (18 min)	A Nonparametric Bayesian Framework for Multivariate Beta Mixture Models Mahsa Amirkhani (Concordia University); Narges Manouchehri (Concordia University); Nizar Bouguila (Concordia University)
	Session A22 Smart Cities I Session Chair: Babajide Salau, Howard University, USA Zoom Link: https://us02web.zoom.us/j/6069105893
44 (18 min)	Emotion Interaction in Cities Yusra Ghafoor (National Tsing Hua University); Fernando H. Calderon (National Tsing Hua University); Sheng-Wei Chen (Academia Sinica); Yi-Shin Chen (National Tsing Hua University)
49 (18 min)	Metamorphic Testing for Convolutional Neural Networks: Relations over Image Classification Prudhviraj Naidu (University of Cincinnati); Hemanth Gudaparthi (University of Cincinnati); Nan Niu (University of Cincinnati)
84 (18 min)	Replication based Crowd Sensing for Optimal Service Response in 5G Communications using Information-Centric Wireless Sensor Networks Gunasekaran Manogaran (Howard University); Amani Alshaikhi (Howard University); Reham Alsabet (Howard University); Danda Rawat (Howard University)
68 (18 min)	Identifying the Severity of Road Accident Impact on Traffic Flow by Ensemble Model Zinat Ara (George Mason University); Mahdi Hashemi (George Mason University)
2:50 – 3:10pm	Break
3:10-4:50pm	Session A3
	Session A31 Software Engineering and Quality Session Chair: Wentao Wang, Oracle, USA Zoom Link: https://us02web.zoom.us/j/3614161065
31 (18 min)	Automated Support to Capture Environment Assertions for Requirements-Based Testing Tanmay Bhowmik (Mississippi State University); Austin Reid Thompson (Mississippi State University); Quoc Anh Do (Mississippi State University); Nan Niu (University of Cincinnati)
24 (18 min)	Towards Integrated Data Analysis Quality: Criteria for the Application of Industrial Data Science

	Nikolai West (Institute of Production Systems, Dortmund); Jonas Gries (Virtual Product Development, Kaiserslautern); Carina Brockmeier (Institute of Production Systems, Dortmund); Jens C. Göbel (Virtual Product Development, Kaiserslautern); Jochen Deuse (Institute of Production Systems, Dortmund)
74 (18 min)	Foraging-Theoretic Tool Composition: An Empirical Study on Vulnerability Discovery Mona Assarandarban (University of Cincinnati); Tanmay Bhowmik (Mississippi State University); Anh Quoc Do (Mississippi State University); Surendra Chekuri (Mississippi State University); Wentao Wang (Oracle); Nan Niu (University of Cincinnati)
62 (15 min)	Unsupervised Skill Identification from Job Ads Imane Khaouja (Mohammed V University in Rabat, International University of Rabat); Ismail Kassou (Mohammed V University in Rabat); Ghita Mezzour (International University of Rabat)
	<p style="text-align: center;">Session A32</p> <p style="text-align: center;">Machine Learning and Security I</p> <p style="text-align: center;">Session Chair: Babajide Salau, Howard University, USA</p> <p style="text-align: center;">Zoom Link: https://us02web.zoom.us/j/6069105893</p>
77 (18 min)	ScanCloud: Holistic GPR Data Analysis for Adaptive Subsurface Object Detection Maxwell Omwenga (University of Tennessee at Chattanooga); Dalei Wu (University of Tennessee at Chattanooga); Yu Liang (University of Tennessee at Chattanooga); Dryver Huston (University of Vermont); Tian Xia (University of Vermont)
75 (18 min)	Predicting Vulnerability for Requirements Sayem Mohammad Imtiaz (Mississippi State University); Md Rayhan Amin (Mississippi State University); Quoc Anh Do (Mississippi State University); Stefano Iannucci (Mississippi State University); Tanmay Bhowmik (Mississippi State University)
53 (18 min)	PRNU-based Source Camera Identification for Multimedia Forensics Eitan Flor (Florida International University); Ramazan Aygun (Kennesaw State University); Suat Mercan (Florida International University); Kemal Akkaya (Florida International University)
35 (18 min)	Detecting Slow Application-Layer DoS Attacks With PCA Clifford Kemp (Florida Atlantic University); Chad Calvert (Florida Atlantic University); Taghi Khoshgoftaar (Florida Atlantic University)

IEEE IRI Conference Day 2: Wednesday, August 11, 2021

8:30-9:45am	<p>Keynote 2: Wahab Hamou-Lhadj <i>Professor, Gina Cody School and Engineering and Computer Science, Concordia University, Canada</i></p> <p>Data Analytics for Software Systems Observability: Challenges and Opportunities Session Chairs: Shu-Ching, Florida International University, USA & Danda Rawat, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065</p>
9:45-10:05am	Coffee Break
10:05-11:25am	Session B1
	<p>Session B11 Deep Learning II Session Chair: Wenjia Li, New York Institute of Technology, USA Zoom Link: https://us02web.zoom.us/j/3614161065</p>
20 (18 min)	<p>Octave Deep Compression: In-Parallel Pruning-Quantization on Different Frequencies Qisheng He (Wayne State University); Ming Dong (Wayne State University); Loren Schwiebert (Wayne State University)</p>
81 (18 min)	<p>Enhancing Multimodal Clustering Framework with Deep Learning to Reveal Image Spam Authorship Wei-Bang Chen (Virginia State University); Yongjin Lu (Virginia State University); Zanyah Ailsworth (Virginia State University); Xiaoliang Wang (Virginia State University); Chengcui Zhang (University of Alabama at Birmingham)</p>
79 (18 min)	<p>Multi-Class Malware Classification Using Deep Residual Network with Non-SoftMax Classifier Yan Lu (Old Dominion University); Sachin Shetty (Old Dominion University)</p>
85 (18 min)	<p>Hierarchical Multimodal Fusion Network with Dynamic Multi-task Learning Tianyi Wang (Florida International University); Shu-Ching Chen (Florida International University)</p>
	<p>Session B12 Health and Wellness II Session Chair: Gunasekaran Manogaran, Howard University, USA Zoom Link: https://us02web.zoom.us/j/6069105893</p>
72 (18 min)	<p>Toward Automatic Mammography Auditing via Universal Language Model Fine Tuning Tahir Issa (University of San Francisco); David Uminsky (University of Chicago); Andrew Shaw (University of San Francisco); Ryan Makipour (Georgetown University Hospital); Ross Filice (Georgetown University Hospital)</p>
4 (18 min)	<p>M-CAD: Towards Multi-Categorical Auto Diagnosis of Different Illnesses using Deep Learning Kains Praveen (National Institute of Technology Karnataka); Nagamma Patil (National Institute of Technology Karnataka); Srikanth C S (National Institute of Technology Karnataka); Vikas J Nayaka (National Institute of Technology Karnataka)</p>
34 (18 min)	<p>LiBRA: A Linguistic Bipolar Disorder Recognition Approach Yen-Hao Huang (National Tsing Hua University); Yi-Hsin Chen (National Tsing Hua University); Fernando Henrique Calderon Alvarado (National Tsing Hua University); Yuwen Lai (National Chiao Tung University); Yi-Shin Chen (National Tsing Hua University)</p>

71 (15 min)	Mammograms Classification with NeuroMem® Chip for Breast Cancer Detection Hamza Amine Yaker (ESI); Lydia Bouzar-Benlabiod (ESI); Anne Menendez (General Vision); Guy Paillet (General Vision)
11:25am- 1:30pm	Lunch break
1:30- 2:50pm	Session B2
	Session B21 Smart Cities II Session Chair: Gunasekaran Manogaran, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065
19 (18 min)	A Methodology and Tool for the Predictive Analysis of Cost Growth in Construction Projects Negar Tajzیهchi (University of Calgary); Mohammad Moshirpour (University of Calgary); George Jergeas (University of Calgary); Farnaz Sadeghpour (University of Calgary)
8 (18 min)	Using Inductive Transfer Learning to Improve Hotel Review Spam Detection Michael Crawford; Taghi Khoshgoftaar (Florida Atlantic University)
42 (18 min)	Extraction of Hottest Shipping Routes: From Positioning Data to Intelligent Surveillance Wen Liu (Wuhan University of Technology); Maohan Liang (Wuhan University of Technology); Jiangtian Nie (Nanyang Technological University); Sahil Garg (Université du Québec); Yang Zhang (Nanjing University of Aeronautics and Astronautic); Zehui Xiong (Singapore University of Technology and Design)
55 (15 min)	Encouraging Sustainability Practices through Entity Recognition of Food Items on Social Media Eugene Lee (California State University, Fullerton); Brandon Chenze (California State University, Fullerton); Anand Panangadan (California State University, Fullerton)
	Session B22 Machine Learning and Security II Session Chair: Tanmay Bhowmik, Mississippi State University, USA Zoom Link: https://us02web.zoom.us/j/6069105893
12 (18 min)	Detecting Web Attacks in Severely Imbalanced Network Traffic Data Richard Zuech (Florida Atlantic University); John Hancock (Florida Atlantic University); Taghi Khoshgoftaar (Florida Atlantic University)
69 (18 min)	HiddenText: Cross-Trace Website Fingerprinting over Encrypted Traffic Jimmy Dani (University of Cincinnati); Boyang Wang (University of Cincinnati)
11 (18 min)	Jointly Smoothing Word Embedding and Text Representation Fatma Najjar (Concordia University); Nizar Bouguila (Concordia University)
78 (15 min)	A Two-Phase Approach for the Prediction of United States Power Plant Water Consumption Emily Yang (Folsom High School); Ying Jin (California State University, Sacramento)
2:50-5pm	Break
5-6:15pm	Virtual Banquet & Awards Ceremony Session Chairs: Shu-Ching Chen, Florida International University, USA & Danda Rawat, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065

IEEE IRI Conference Day 3: Thursday, Aug 12, 2021

10:05-11:25am	Session C1
	<p>Session C11 Architecture Session Chair: Gunasekaran Manogaran, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065</p>
28 (18 min)	<p>Generalized Structure for Adaptable Immersive Learning Environments Erik Coltey (Florida International University); Yudong Tao (University of Miami); Tianyi Wang (Florida International University); Shahin Vassigh (Florida International University); Shu-Ching Chen (Florida International University); Mei-Ling Shyu (University of Miami)</p>
39 (18 min)	<p>CLAMP: Cross-Level Attention for Multi-Party Conversational Emotion Recognition Fernando Henrique Calderon Alvarado (National Tsing Hua University); Mau-Yun Ma (National Tsing Hua University); Yen-Hao Huang (National Tsing Hua University); Yi-Shin Chen (National Tsing Hua University)</p>
45 (18 min)	<p>Towards an Architecture to Support Data Access in Research Data Spaces Julius Möller (University of Oldenburg); Dennis Jankowski (OFFIS); Axel Hahn (University of Oldenburg)</p>
23 (18 min)	<p>ChartReader: Automatic Parsing of Bar-Plots Chinmayee Rane (University at Buffalo); Seshasayee Mahadevan Subramanya (Pennsylvania State University); Devi Sandeep Endluri (Texas A&M University); Lee Giles (Pennsylvania State University); Jian Wu (Old Dominion University)</p>
	<p>Session C12 Artificial Intelligence for HealthCare (AIHC) Workshop Session Chairs: Lydia Bouzar-Benlabiod, Ecole Nationale Supérieure d'Informatique, Algeria & Abdellah Kaci, Ecole Nationale Supérieure d'Informatique, Algeria Zoom Link: https://us02web.zoom.us/j/6069105893</p>
AIHC2	<p>Detection of Alzheimer's Disease Using Graph-Regularized Convolutional Neural Network Based on Structural Similarity Learning of Brain Magnetic Resonance Images Kuo Yang, Emad Mohammed, and Behrouz Far</p>
AIHC3	<p>Important Features Identification for Prostate Cancer Patients Stratification Using Isolation Forest and Interactive Clustering Method Emad Mohammed, Esmaeil Abad, Zahra Abad, Behrouz Far, and Trafford Crump</p>
AIHC6	<p>Towards Model-informed Precision Dosing with Expert-in-the-loop Machine Learning Yihuang Kang, Yi-Wen Chiu, Ming-Yen Lin, Fang-Yi Su, and Sheng-Tai Huang</p>
AIHC8	<p>Impact of Hyperparameter Tuning in Classifying Highly Imbalanced Big Data John Hancock and Taghi Khoshgoftaar</p>
AIHC9	<p>Encoding Techniques for High-Cardinality Features and Ensemble Learners Justin Johnson and Taghi Khoshgoftaar</p>
11:25am-1:30pm	Lunch break
1:30 – 2:50pm	Session C2
	<p>Session C21 Novel Applications I Session Chair: Gunasekaran Manogaran, Howard University, USA Zoom Link: https://us02web.zoom.us/j/3614161065</p>

52 (18 min)	<p>Multimodal Data Integration for Interactive and Realistic Avatar Simulation in Augmented Reality</p> <p>Anchen Sun (University of Miami); Yudong Tao (University of Miami); Mei-Ling Shyu (University of Miami); Shu-Ching Chen (Florida International University); Angela Blizzard (University of Miami); William Andrew Rothenberg (University of Miami); Dainelys Garcia (University of Miami); Jason F Jent (University of Miami)</p>
22 (18 min)	<p>Effectiveness Feature for Micro-Expression Recognition</p> <p>Trang Thanh Quynh Le (University of St. Thomas); Manjeet Rege (University of St. Thomas)</p>
59 (15 min)	<p>APD: An Autoencoder-based Prediction Model for Depression Diagnosis</p> <p>Hyeseong Park (AKA Cognitive); Myung Won Raymond Jung (AKA Cognitive); Uran Oh (Ewha Women's University)</p>
73 (15 min)	<p>Writaupair: A Contextualized Assistive Platform for Children with Writing Difficulties</p> <p>Preethu Rose Anish (TCS Research); Vivek Joshi (TCS Research); Pratik Sonar (TCS Research); Smita Ghaisas (TCS Research)</p>
	<p>Session C22</p> <p>Empirical Methods for Recognizing Inference in Text (EM-RITE) Workshop</p> <p>Session Chairs: Min-Yuh Day, National Taipei University, Taiwan & Chuan-Jie Lin, National Taiwan Ocean University, Taiwan</p> <p>Zoom Link: https://us02web.zoom.us/j/6069105893</p>
EM-RITE1	<p>Prediction Model of Social Network Suicide Ideation by Small Sample</p> <p>Shou-Chun Yen, Kuo-Chung Chu, and Po-Yao Tsai</p>
EM-RITE2	<p>Understanding Consumers' Post-purchase Behavior by Cognitive Dissonance and Emotions in the Online Impulse Buying Context</p> <p>Wen-Kuo Chen, Cheng Kun Chen, and Andri Dayarana K. Silalahi</p>
EM-RITE3	<p>AI Customer Service System with Pre-trained Language and Response Ranking Models for University Admissions</p> <p>Min-Yuh Day and Sheng-Ru Shaw</p>
2:50-3:10pm	Break
3:10 – 4:50pm	Session C3
	<p>Session C31</p> <p>Novel Applications II</p> <p>Session Chair: Wentao Wang, Oracle, USA</p> <p>Zoom Link: https://us02web.zoom.us/j/3614161065</p>
43 (18 min)	<p>Emerging Trends Demand Forecast using Dynamic Time Warping</p> <p>Ankita Malarya (Tiger Analytics); Karthik Ragunathan (Tiger Analytics); Mani Bharath Kamaraj (Tiger Analytics); Vignesh Vijayarajan (Tiger Analytics)</p>
17 (18 min)	<p>The Performance of PredNet Using Predictive Coding in the Visual Cortex: An Empirical Analysis</p> <p>Sai Ranganath Mikkilineni (University of Louisiana at Lafayette); Michael Totaro (University of Louisiana at Lafayette)</p>
9 (18 min)	<p>Wi-Fi Based Accurate Indoor Localization System using SVM and LSTM Algorithms</p> <p>Haidar Abbas (University of Sulaimani); Najmadin Wahid (University of Sulaimani); Kayhan Ghafoor (Salahaddin University); Danda Rawat (Howard University)</p>
51 (18 min)	<p>Stability Analysis of NAO Humanoid Robot Using a Fuzzy Petri net Model</p> <p>Madison Bland (The College of New Jersey); Shane Chiovarou (The College of New Jersey); Seung-yun Kim (The College of New Jersey)</p>
	<p>Session C32</p> <p>Empirical Methods for Recognizing Inference in Text (EM-RITE) Workshop</p>

	<p>Session Chairs: Min-Yuh Day, National Taipei University, Taiwan & Chuan-Jie Lin, National Taiwan Ocean University, Taiwan</p> <p>Zoom Link: https://us02web.zoom.us/j/6069105893</p>
EM-RITE4	<p>Quality Evaluation of the General Domain Chinese Dialogue Generation Models with a BLEURT-based Model</p> <p>Shih-Hung Wu and Chun-Yu Yeh</p>
EM-RITE5	<p>BECMER: A Fusion Model Using BERT and CNN for Music Emotion Recognition</p> <p>Bo-Hsun Sung and Shih-Chieh Wei</p>
EM-RITE6	<p>TOCAB: A Dataset for Chinese Abusive Language Processing</p> <p>I Chung and Chuan-Jie Lin</p>
	End