

IEEE MIT Undergraduate Research Technology Conference 2018

Poster Presentation Sessions Schedule

Sunday, October 7, 2018 (8:30AM - 10:00AM)

Stata Center - Student Vest Street

| Poster Title | Authors | Technical Track |
|--|---|---|
| PO18-0058: A Wireless, Flexible Electroencephalography Device for Universal Brain-Machine Interfaces | Nathan Zavarelli (The Georgia Institute of Technology) | BioEECS and Applied Physics |
| PO18-0070: Unconditionally Stable Crank-Nicolson FDTD Scheme for Solving Low Frequency Electromagnetic Induction Problems | Tornike Shubitidze, Benjamin Barrowes, Fridon Shubitidze (University of New Hampshire, Dartmouth College) | BioEECS and Applied Physics |
| PO18-0091: Bokeh Application for Modelling Plasmons with Finite Element Method | William Zheng (Columbia University) | BioEECS and Applied Physics |
| PO18-0094: Investigating Muscle Synergies and Motor Control of Stroke Patients Using EEG and sEMG | Heath Boyea, J. Miles Canino (State University of New York at Canton) | BioEECS and Applied Physics |
| PO18-0095: Quantitative Characterization of Uniformity of Millimeter-Wave-Induced Temperature Fields | Petra Kumi (Worcester Polytechnic Institute) | BioEECS and Applied Physics |
| PO18-0053: Optimization of High-Efficiency Organic-Inorganic Halide Perovskite Solar Cells via a Novel Polycaprolactone Additive Pathway | Anisa Prasad, Sirina Prasad, Yuchen Zhou, Yifan Yin, Miriam Rafailovich (Staples High School, Stony Brook University) | Circuits, Materials, and Nanotechnologies |
| PO18-0080: 3D Structure Memristor Array Simulation Enabled by Epitaxial Random Access Memory | Yongmo Park (MIT) | Circuits, Materials, and Nanotechnologies |
| PO18-0081: Novel Nanofabrication Technique for Nanopatterning Graphene and its Applications | Byunghun Lee (MIT) | Circuits, Materials, and Nanotechnologies |
| PO18-0087: Bottom-up Graphene Nanopatterning | Luigi Ranno (MIT) | Circuits, Materials, and Nanotechnologies |
| PO18-0096: Graphene as a Diffusion Barrier in High-Temperature Electronics | Laura E. Brandt (University of California, Berkeley) | Circuits, Materials, and Nanotechnologies |
| PO18-0051: Beyond Von Neumann Architecture: Energy Efficient Near-Data Processing for Concurrent Computing | Amy Huang, Jiwon Choe, R. Iris Bahar (Brown University) | Computer Systems |
| PO18-0007: There are multiple web applications! How do we extract the web components of different sizes to compare the visual similarities between them? | Jia Lin Cheoh (Purdue University) | Human-Computer Interaction and Graphics |
| PO18-0044: Revisiting Graphical Perception of Common Data Visualizations Using Bayesian Modeling | Jiehui Luo, Karen Bonilla (Thayer School of Engineering at Dartmouth, Babson College) | Human-Computer Interaction and Graphics |
| PO18-0052: IronHacks Research Tool: A Hackathon Research Tool for Studying the Power of Collective Intelligence | Jia Lin Cheoh (Purdue University) | Human-Computer Interaction and Graphics |
| PO18-0069: Passions of Deceit: A Study of Facial Emotion Expression with Gender Dimorphism in Lying | Gazi Mahir Naven (University of Rochester) | Human-Computer Interaction and Graphics |
| PO18-0076: Conformal Parametric Array | Matthew Malone, Eric Dieckman (University of New Haven) | Innovative Technologies and Others |
| PO18-0083: College Exam Scheduling | Khanh Nghiem (Connecticut College) | Innovative Technologies and Others |
| PO18-0036: Improved Biometric User Authentication through Peripheral Finger Vein Patterns and Fingerprints | Ritik Patnaik, Scott Belshaw (University of North Texas) | Security and Communications |
| PO18-0048: Cybersecurity Risk Identification and Communication | Danielle Fieseler, Tyler Williams (St. Joseph's College, Murray State University) | Security and Communications |
| PO18-0050: Efficiently Finding Software Vulnerabilities Using Neural Networks | Dave Epstein (Columbia University) | Security and Communications |
| PO18-0082: Alexa, How Secure Are You? Reverse Engineering and Protocol Analysis of the Amazon Echo | Teresa Tseng, Aliza Isaacs, Jan Janak, Henning Schulzrinne (Barnard College, Columbia University) | Security and Communications |

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| Sunday, October 7, 2018 (1:30PM - 3:00PM) Stata Center - Student Vest Street | | |
|--|--|---|
| Poster Title | Authors | Technical Track |
| PO18-0035: Extending Financial Credit Network Model: Default Prediction and Strategic Improvement | Xinnan Cheng, Frank Cheng, Michael Wellman (Oberlin College, University of Michigan, Ann Arbor) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0038: Understanding Machine Learning Bias Without a Ground Truth | Jordan Troutman (University of Maryland, Baltimore County) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0039: Applying the Unsupervised Machine Learning Spectral Biclustering Algorithm on Customer Data for the Shenzhen Metro System | Curren Tipnis (Georgia Institute of Technology) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0063: Predicting Numerical Thought by Utilizing Machine Learning: Understanding Number Processing and Spatial Cognition through Eye Movements | Havi Nguyen, Sharon John (Columbia University, University of Houston) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0065: Popular Sentiment of U.S. Electric Vehicle Drivers | Kevin Alvarez, Emerson Wenzel, Arielle Dror (North Carolina State University, Tufts University, Smith College) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0066: Creating Xpilot Controllers Using Artificial Neural Networks with LSTM Blocks | James Conley (Connecticut College) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0068: Code Intention: Natural Language Processing | Harmit Raval (Princeton University) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0075: User Authentication with Lightweight Artificial Intelligence | Alex Epstein, David Wigley, Mehmet Ergezer (Wentworth Institute of Technology) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0077: Efficient Interpretation of Nonlinear Support Vector Machines In Genomics | Eva Prakash, Avanti Shrikumar, Anshul Kundaje (BASIS Independent Silicon Valley (High School), Stanford University) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0079: Is it a pothole or graffiti? The Ins and Outs of Participatory Urban Issue Monitoring | Christopher Yong, Daphney-Stavroula Zois, Charalampos Chelmis (University at Albany, State University of New York, University at Albany) | Machine Learning / Artificial Intelligence (AI) |
| PO18-0011: Talk and Roll Bot | Samiha Riham, Syeda Nazia Rahman (CUNY - New York City College Of Technology) | Robotics and Controls |
| PO18-0017: PlnK-VIO: Preintegration Using Invariant Extended Kalman Filtering for Monocular Visual Inertial Odometry | Yehonathan Litman (Stony Brook University) | Robotics and Controls |
| PO18-0021: Robotic Mannequin With Social Interaction | Rumana Syed, Estrella Moreira, Tasha Deeroop, Farjana Ferdousy (New York City College of Technology) | Robotics and Controls |
| PO18-0027: Conceptual Design and Modeling of an Insect Inspired Hexapod Robot | Niranjan Ravichandra, Souma Chowdhury (State University of New York at Buffalo) | Robotics and Controls |
| PO18-0054: Feedback Motion Planning For Legged Robots Using Rapidly-exploring Random Trees | Joseph Galloway, Pranav Bhounsule (The University of Texas at San Antonio) | Robotics and Controls |
| PO18-0062: Quiet Down!: A psychoacoustic annoyance study within vehicles | Ismael Villegas (Columbia University) | Robotics and Controls |
| PO18-0074: Stopping Sight Distance Analysis Under Connected Vehicle Environment | Brian Pham, Dat Do, Tugba Arsava, Mehmet Ergezer (Wentworth Institute of Technology) | Robotics and Controls |
| PO18-0086: Sam.io: Self-Driving Robot | Pascal Bakker, Jacob Casey, Mehmet Ergezer (Wentworth Institute of Technology) | Robotics and Controls |
| PO18-0088: Exploring Dynamic Movement Primitives for Learning from Demonstration | Joe Cloud, James Brady, Michail Theofanidis, Fillia Makedon (University of Texas at Arlington) | Robotics and Controls |
| PO18-0047: Scalable Graph Matching Using Graph Distances in Metric Spaces | Jasmin Gao, Stratis Ioannidis, Armin Moharrer (Princeton University, Northeastern University) | Theoretical Computer Science and Mathematics |
| PO18-0071: The Robust Application Hosting Problem | Sam Barnes (Connecticut College) | Theoretical Computer Science and Mathematics |
| PO18-0072: Simulation of diffusion of Yttria atoms into Zirconia: Prediction of annealing rates of YSZ | Angeliqe McFarlane (Seton Hall University) | Theoretical Computer Science and Mathematics |
| PO18-0085: Dial A Ride Problem - Selecting Longest Trail First in a Uniform Metric Space | Patrick Davis (Connecticut College) | Theoretical Computer Science and Mathematics |
| PO18-0089: Evaluating Fission Data for Reactor Applications | Tunisia Solomon, Elizabeth Ricard-McCutchan, Alejandro Sonzogni (SUNY Farmingdale) | Theoretical Computer Science and Mathematics |