

IEEE MIT Undergraduate Research Technology Conference 2019
Technical Paper Oral Presentation Schedule

Saturday, October 12, 2019

Stata Center 32-123

Machine Learning / Artificial Intelligence (AI) Track #1

Track Chair: TBD

TIME	TITLE	AUTHORS
10:30AM	PA19-0022: Comparing Machine Learning Techniques for Zeek Log Analysis	Daniel Andrews, Rajeev Agrawal, Suzanne Matthews, Alexander Mantis (United States Military Academy)
10:40AM	PA19-0029: Detecting Organ Failure in Motor Vehicle Trauma Patients: A Machine Learning Approach	Neil Deshmukh, Abhijit Bhattaru, Nathan Nakamitsu, Srija Makkapati (Moravian Academy, The College of New Jersey, UC Berkeley, Princeton University)
10:50AM	PA19-0030: Semi-Supervised Natural Language Processing Approach for Fine-Grained Classification of Medical Reports	Neil Deshmukh (Moravian Academy)
11:00AM	PA19-0032: Neural Network for Nonlinear Dimension Reduction Through Manifold Recovery	Jessica Bader, Declan Nelson, Thalia Chai-Zhang, Walter Gerych, Elke Rundensteiner(Iowa State University, Georgia Institute Tech, WPI)
11:10AM	PA19-0037: Using Machine Learning for Data Imputation to Support Environment Health Studies in Northern Puerto Rico	Ayah Aboelela, David Kaeli, Zlatan Feric (University of Massachusetts Boston, Northeastern University)
11:20AM	PA19-0054: A Characterization of Dante Alighieri - An NLP approach to The Divine Comedy	Joshua Steier (Seton Hall University)
11:30AM	PA19-0061: Using Machine Learning to Correlate TwitterData and Weather Patterns	Michael Scornavacca, Evan Dogariu, Shruti Garg, Brandon Khadan, Ashley Potts (Rutgers University)
11:40AM	PA19-0063: Investigating Gender on a Scale of Masculine/Feminine Appearance	Melissa Wen (University of Rochester)
11:50AM	PA19-0066: Developing a Device-Independent Software for Adaptive Tremor Suppression Orthoses	Alex Zhang (Montgomery High School)
12:00PM	PA19-0068: Anomaly Detection for Large-Scale Municipal Data	Jack J Amend, Elizabeth Hennen, Megan Resurreccion (Elon University, Roger Williams University, University of Illinois)

AM TRACK #1

IEEE MIT Undergraduate Research Technology Conference 2019
Technical Paper Oral Presentation Schedule

Saturday, October 12, 2019

Stata Center 32-141

**Theoretical Computer Science and Mathematics Track, Computer Systems Track,
Human-Computer Interaction and Graphics Track**

Track Chair: TBD

TIME	TITLE	AUTHORS
10:30AM	PA19-0039: On the Stability of Optimization Algorithms Given by Discretizations of the Euler-Lagrange ODE	Emily Zhang, Rachel Walker (MIT, Central Washington University)
10:40AM	PA19-0050: Neural Networks' Capability of Recognizing Symmetry Structures: A Tensor Perspective	Chen Shang, Xiao-Yang Liu (University of Michigan, Columbia University)
10:50AM	PA19-0053: A Characterization of Distance Matrices of Positive: Weighted Kneser Graphs and Generalized Petersen Graphs	Joshua Steier, Luis Monterosso (Seton Hall University)
11:00AM	PA19-0059: AutoNote	Jason Fagerberg, Eric Wahlstrom, Calvin Phung, Kevin Mick, Mira Yun (Wentworth Institute of Technology)
11:10AM	PA19-0077: Cat Nanny: Affordable Cat Caring System	Sara Al Sowaimel, Amanda Sossong, Mira Yun (Wentworth Institute of Technology)
11:20AM	PA19-0003: Implementing Robust Voice-Control for Human - Robot Interaction for Autonomous Robot Guides	Mohammed Elmzaghi, Mohammed Elmzaghi, Muhammad Fahad, Yi Guo (Stevens Institute of Technology)
11:30AM	PA19-0023: Exploration and Visualization of Municipal Worcester Data	Jack J Amend, Elizabeth Hennen, Megan Resurreccion (Elon University, Roger Williams University, University of Illinois)
11:40AM	PA19-0027: An ARSandplay System for People with Down Syndrome	Talles Marcelo Barbosa, Gabriel Dourado, Josef Augusto Silva, Ariane Di Menezes, Kájrita Cecília Silva (PUC Goiâns)
11:50AM	PA19-0033: Robot Dancer for Activities with People with Down Syndrome	Talles Barbosa (PUC Goiâns)
12:00PM	PA19-0091: Using Facial Analysis to Combat Distracted Driving in Autonomous Vehicles	Kaushik Prakash, Anna Prilutsky, Mihir Laud, Ajit Singh, Sreeta Basu (Rutgers University)
12:10PM	PA19-0092: Acupunslot: Applying Acupuncture Studies to Wearable Massage Device	Adam Conneely, Chen-Hsiang Yu (Wentworth Institute of Technology)

AM TRACK #2

IEEE MIT Undergraduate Research Technology Conference 2019
Technical Paper Oral Presentation Schedule

Saturday, October 12, 2019

Stata Center 32-155

Biological and Biomedical Engineering and Technology (BioEECS) Track
Circuits, Materials, and Nanotechnologies Track
Track Chair: Guruprasad Madhavan

TIME	TITLE	AUTHORS
10:30AM	PA19-0080: Fabrication and Characterization of Polymeric Vascular Grafts	Iris Horng, Katelyn King, Jalen Patel, Kaushik Tallam, Kartik Pejavara (Rutgers University)
10:40AM	PA19-0083: Combining the Power of Living Cells and Non-living Catalysts for the Production of Valuable Chemicals	Ananya Gandhi, Ava Brook, Sophia Ginet, Justin Ma, Kirmina Monir (Rutgers Universit)
10:50AM	PA19-0094: An Integrated Signal Acquisition AFE for Latency Quantification of ENG Signals	Yuchang Zhang, Aatreya Chakravarti, Michael Tasellari, Ulkuhan Guler (Worcester Polytechnic Institute)
11:00AM	PA19-0106: Investigating the Efficacy of Data Mining Techniques for Crowdsourced Biological Datasets	Ilona Regan, Dany Alkurdi, Carolina Ruiz, Elizabeth Ryder, Robert Gegeear (WPI, Princeton University, University of Massachusetts Dartmouth)
11:10AM	PA19-0124: A Real-Time Algorithm for Identifying Gait in a Sensory Substitution System	Jamie Poole, Jhon Charaja Casas, Roberto Bolli, Hermano Krebs (Cornell University, Universidad de Ingenieria Tecnology, MIT)
11:20AM	PA19-0073: Development of Polymer Composites Reinforced with Recycled Carbon Fibers	Emanuel Meshoyerer, Crystal Pan, Brianna Yao, Joanna Zhang, Elizabeth Chang (Rutgers University)
11:30AM	PA19-0075: Integrating Electronics with Solid Structures Using 3D Circuits	Allison Li, Vivek Kolli, Keith Lehman, Benjamin Baldwin, Charlotte Lin (Rutgers University)
11:40AM	PA19-0102: Synthetic Transition Metal Oxides Prepared by Gel Collection and Characterization of Perovskite Nanocrystal Thin Films for High Performance Dielectric Applications	Jaylene Salas, Nasim Farahmand, Stephen O'Brien (CUNY The City College of New York, The Graduate Center of the City University of New York)
11:50AM	PA19-0104: Superconducting Nanowire Fabrication using Dislocation Engineering	Glenn Martinez, Drew Buckley, Ilya Charaev, Douglas Dow, Karl Berggren (Wentworth Institute of Technology, Massachusetts Institute of Technology)

AM TRACK #3

IEEE MIT Undergraduate Research Technology Conference 2019
Technical Paper Oral Presentation Schedule

Saturday, October 12, 2019

Stata Center 32-123

Machine Learning / Artificial Intelligence (AI) Track #2

Track Chair: TBD

TIME	TITLE	AUTHORS
1:30PM	PA19-0076: Early Diagnosis Prediction with Recurrent Neural Networks	Daniel Johnston, Liubou Klindziuk, Lolita Nazarov, Thomas Hartvigsen, Elke Rundensteiner (Columbia University, Amherst College, Stony Brook University, WPI)
1:40PM	PA19-0078: Motor Exercise Classification using machine learning	shehjar sadhu, Adityaraj Yerule, Nick Constant, Kunal Mankodiya (University of Rhode Island, Indian Institute of Technology)
1:50PM	PA19-0086: A Novel Approach to the Diagnosis of Heart Disease using Machine Learning and Deep Neural Networks	Sahithi Ankireddy (James B. Conant High School)
2:00PM	PA19-0087: Analyzing Decision Trees to Understand MNIST Misclassification	Chia-En Lin, Alexis Comeau, Christopher McDonald (McDaniel College)
2:10PM	PA19-0088: Using t-SNE to explore Misclassification	SoYoung Jeon, Mason White (McDaniel College)
2:20PM	PA19-0098: Machine Learning-Based Malware Detection using Recurrent Neural Networks	Miguel Oyler-Castrillo, Nicolas Bohm Agostini, David Kaeli, Gadiel Sznaier (Northeastern University)
2:30PM	PA19-0108: Generative Multi-Stream Architecture For American Sign Language Recognition	Dom Huh, Sai Gurrapu, Frederick Olson (George Mason University)
2:40PM	PA19-0114: A Vision-Based Hygiene Monitoring System: Using Deep Learning to Assess Handwashing Procedure in Real Time	Harvey Wang, Maria Galkin, Kashmala Rehman, Benjamin Schornstein, Warren Sunada-Wong (Rutgers University)
2:50PM	PA19-0115: Machine Learning Approach for Art Market	Runjia Zhang, Zhizhen Huang, Xiao-yang Liu (Columbia University, Fordham University)
3:00PM	PA19-0129: (Not Register) Predicting the County-Level Prevalence of Chlamydia in the United States	Gabrielle Roberts, Caroline Chockolak, Gwenyth Portillo-Wightman, Valerie Wang (University of Southern California)

PM TRACK #1

IEEE MIT Undergraduate Research Technology Conference 2019
Technical Paper Oral Presentation Schedule

Saturday, October 12, 2019

Stata Center 32-141

Robotics and Controls Track, Security and Communications Track

Track Chair: Sreeram Dhurjaty

TIME	TITLE	AUTHORS
1:30PM	PA19-0042: A Visionless Autonomous Quadcopter Landing	Joseph Arrigo, Victoria Chen, Zubin Kremer Guha, Arvind Kruthiventy, Regina Valencia (Rutgers University)
1:40PM	PA19-0065: Autonomous Juggling Robot	Shana Chen, Olivia Cao, Paul Barsa, Krish Desai, Aanya Gupta (Rutgers University)
1:50PM	PA19-0070: A Robotic System for Securing and Removing a Plastic Bottle Cap	Benjamin Lee, Musa Jouaneh (University of Rhode Island)
2:00PM	PA19-0095: An automatic facial recognition and tracking for a projectile launching system for personal self-feeding via smart-phone app	Samuel Pevsner, Brittany Smith, Camden Craigie (University of Connecticut)
2:10PM	PA19-0117: Nonlinear Kinematic Control of Qbot2-Trajectory Tracking	Sabiha Wadoo, Marc Vazquez
2:20PM	PA19-0060: Data Transmission over Audible Spectrums with OOK	Miles Macchiaroli, Subin Bastola, Spencer Bourassa, Adam Beauchaine, Mira Yun (Wentworth Institute of Technology)

PM TRACK #2

IEEE MIT Undergraduate Research Technology Conference 2019
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Saturday, October 12, 2019

Stata Center 32-155

Innovative Technologies

Track Chair: TBD

TIME	TITLE	AUTHORS
2:00PM	FIRST LEGO League Team Blue Box - Blue Aerify	Anthony Wan, Jessamine Hui, Gauri Valiyodiyil, Sree Krothapalli, Krystian Lic, Thomas Manning, Sasha Luchanok, Kyla Miller
2:10PM	FIRST LEGO League Team ICE Box	Ryan Bulkley, Bobby Hamwey, Abbie Petrini, Gordon Chik, Anna Sun, Shyani Patel, Ryan Burbo, Katelyn Ru
2:20PM	FIRST LEGO League Team Tool Box - iDelivery Service	Liam Foley, Om Patel, Sahaj Patel, Jake Patrini, Robert Albu, Kyle Ru, Aditya Biju, Aidan Honor, Aiden O'Neil
2:30PM	PA19-0008: Tensor Nuclear-Norm Minimization for Snapshot Compressive Imaging Cameras	Liuqing Yang, Xiao-Yang Liu (Columbia University)
2:40PM	PA19-0028: Piezoelectric Energy Harvesting from Human-Powered Oscillatory Motion	Amanda Zheng, Vicky Zheng, Andrew Pasco, Emily Liao, Kayla Bowen (Rutgers University)
2:50PM	PA19-0067: Silver Line Extrusion - Improving Quality through Six Sigma Methods and Ergonomic Analyses	Luke Magette, Franchesca Doell, Jason Maytin, Alex Zhang, Wanda Duran (Rutgers University)
3:00PM	PA19-0093: Silica Gels for Atmospheric Water Harvesting	Emily Tsai, Lara Vaz, Alan Yeung (Rutgers University)