

IEEE MIT Undergraduate Research Technology Conference 2020
Technical Paper Oral Presentation Schedule

<p style="text-align: center;">Saturday, October 10, 2020 Hopin: Breakout Room A Machine Learning / Artificial Intelligence (AI) Track #1 Track Chair: James Byleckie</p>		
TIME	PAPER TITLE	PRESENTERS
8:00AM	PA20-0011: Increasing OCR Accuracy on Images with Motion Blur via GAN Derivatives	Kyoungwan Woo (Phillips Exeter Academy)
8:10AM	PA20-0017: Using Neural Networks to Reinforce Absence of Gender Bias in Dyslexia Screenings	William Hobbs (University of South Carolina)
8:20AM	PA20-0020: The Process of Multi-Factor Investing and Applications of Machine Learning	Zhaowen Yun (University of Nottingham Ningbo China)
8:40AM	PA20-0021: Comparative Analysis of Image Processing Algorithms for Airport Security	Sasha Callaway , Jeffrey Cheng, David Fu, Alexander Contratti, Harshika Gelivi (Rutgers University)
8:50AM	PA20-0027: Small-Sized Neural Network for Detecting COVID-19 from Chest X-rays	Rahul Thapa (Villanova University)
9:00AM	PA20-0036: ParaShop: A Mobile AR App in Assisting People with ASD to Shop	Mengting Xia (The City College of New York)
9:10AM	PA20-0037: Random Forest Regression of Markov Chains for Accessible Music Generation	Vivian Chen , Jackson DeVico, Arianna Reischer, Ananya Vasireddy, Nicholas Zhang (Rutgers University)
9:20AM	PA20-0041: Associating Exposures to Adverse Health Outcomes using Decision Trees	Aditi Purandare (Northeastern University)
9:30AM	PA20-0046: Object Permanence in Videos: DNN Performance vs Human Ability	Irene Zhou (Massachusetts Institute of Technology)
9:40AM	PA20-0059: Real time Attention Span Tracking in Online Education	Rahul Rangarajan Kannan (Sri Venkateswara College of Engineering)

AM TRACK #1

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<p style="text-align: center;">Saturday, October 10, 2020 Hopin: Breakout Room B Robotics and Controls Track Track Chair: TBD</p>		
TIME	PAPER TITLE	PRESENTERS
8:00AM	PA20-0014: Bio-Inspired Hexapedal Firefighting Robot	Kirkland Boyd (Trinity College)
8:10AM	PA20-0066: Design and Implementation of Hardware and Speed and Torque Control with Regenerative Braking System for an Electric Vehicle for Personal Mobility	Alex Pulamarin (National Polytechnic University)
8:20AM	PA20-0073: Safe Reconfiguration of Autonomous Driving Systems	Keying Wang (Carnegie Mellon University)
8:40AM	PA20-0081: Enabling Adaptive Robot-Environment Interaction and Context-Aware Artificial Somatosensory Reflexes through Application-Specific Sensor-Embedded Wearables	Syamantak Payra (Massachusetts Institute of Technology)
8:50AM	PA20-0090: Using Closed Feedback Loops to Evaluate Autonomous Juggling Performance	Hamzah Farooqi , Tomas Collado, Tashu Gupta, Ashwindev Pazhetam, Robert Taylor (Rutgers University)
9:00AM	PA20-0097: Hoist Load Stabilization via Torque-Based and Retraction-Speed Control Systems	Kristina Hughes (The United States Military Academy)
9:10AM	PA20-0100: Sling Load Stabilization	Michael Flanagan (The United States Military Academy)
9:20AM	PA20-0123: Design of a Printed Circuit Board (PCB) for Electrical Integration on the Agile Ground Robot (AGRO)	Andres Rodriguez (The United States Military Academy)
9:30AM	PA20-0132: Decentralized Voltage Control in Power Inverters Using Feedback Optimization	Nelson Enrique Tello Bautista (National University of Colombia)
9:40AM	PA20-0134: Electric Vehicle for Personal Mobility with Torque and Speed Control Design and Regenerative Braking	Alex Pulamarin (National Polytechnic University)

AM TRACK #2

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<p style="text-align: center;">Saturday, October 10, 2020 Hopin: Breakout Room C Biological and Biomedical Engineering and Technology (BioEECS) Track, Innovative Technologies Track Track Chair: TBD</p>		
TIME	PAPER TITLE	PRESENTERS
8:00AM	PA20-0016: A Novel Controller Architecture for Intelligent Artificial Pancreas	Eric Costa Pimentel (University of Illinois - Chicago)
8:10AM	PA20-0058: An Analog Front-End For A Noninvasive Core Body Temperature Sensor	Eric Baccei, Eric Macorri (Worcester Polytechnic Institute)
8:20AM	PA20-0063: Decoding Emotions from Brain Signals Using Recurrent Neural Networks	Eva Zhang, Jos Parayil, Aaliyah Sayed, Jonathan Yao, Raphaele Hoang (Rutgers University)
8:40AM	PA20-0071: Classifying EEG of Propofol-Induced Unconsciousness in the Presence of Burst Suppression	Willian De Faria (University of Notre Dame)
8:50AM	PA20-0096: A Photoplethysmography Wearable with Long-term Heart Rate Variability Detection Algorithm	Bill Chieng (Worcester Polytechnic Institute)
9:00AM	PA20-0103: Sensing with Prosthetics Using Artificial Skins	Lasya Balachandran (High Technology High School)
9:10AM	PA20-0124: Detecting Differential Transcription Factor Binding Based on DNA Accessibility	John Lin (Boston Latin School)
9:20AM	PA20-0013: 3D Depth Imaging for Assistive Guidance	Manuel Ackattupathil (Bergen Community College)
9:30AM	PA20-0051: Probabilistic Analysis of Confocally Imaged Synaptic Calcium Activity (PACISCA)	Grace Tang, Shreya Kochar (Massachusetts Institute of Technology, Wellesley College)
9:40AM	PA20-0052: Designing and Simulating a Smart Air Purifier to Combat HVAC-induced COVID-19 Transmission	Noah Bergam, Sakshi Lende, Skyler Snow, Julianna Zhang (Rutgers University)
9:50AM	PA20-0061: A Hybrid Approach to Noise-Reduced Pods in Urban Areas	Lasya Balachandran, Arjun Agarwal, Hannah Cherry, John Kellaher, Ethne Laude (Rutgers University)

AM TRACK #3

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Saturday, October 10, 2020
Hopin: Breakout Room A
Machine Learning / Artificial Intelligence (AI) Track #2
Track Chair: James Byleckie

TIME	PAPER TITLE	PRESENTERS
12:30PM	PA20-0062: Time Warping Clustering for the Forecast and Analysis of COVID-19	Qixuan Jin (California Institute of Technology)
12:40PM	PA20-0068: Hierarchical BiGraph Neural Network as Recommendation Systems	Dom Huh (George Mason University)
12:50PM	PA20-0069: Positive Unlabeled Gradient Boosting	Andrea Boskovic (Smith College)
1:00PM	PA20-0072: A Low-Cost Radar-based Domain Adaptive Breast Cancer Screening System	Samuel Claflin (University of Massachusetts Lowell)
1:10PM	PA20-0089: Utilizing Artificial Intelligence to Diagnose Autism Spectrum Disorder Based on Eye Tracking Saccades	Abinaya Dinesh (Stanford University)
1:20PM	PA20-0099: Computer-aided Ischemic Stroke Classification from EEG Data Using a Single-Tiered Spiking Neural Network Framework	Elon Litman (John L. Miller Great Neck North High School)
1:30PM	PA20-0101: Detecting Fake News on Twitter Using Machine Learning Models	Emma Cueva, Grace Ee, Akshat Iyer, Alexandra Pereira, Alexander Rosman (Rutgers University)
1:40PM	PA20-0108: Determining Top Fully-Connected Layer's Hidden Neuron Count for Transfer Learning, using Knowledge Distillation	Ritwick Ghosh (Indian Institute of Engineering Science and Technology, Shibpur)
1:50PM	PA20-0114: A-Seeker: An Efficient Audio Transcription Platform	Harrison Affel, Sean Cox (Wentworth Institute of Technology)
2:00PM	PA20-0121: A Novel Approach to Toxic Gas Detection using an IoT Device and Deep Neural Networks	Ibrahim Bhavnagarwala, Adam Bhavnagarwala (NJIT)
2:10PM	PA20-0128: Assistive Diagnostic Tool for Brain Tumor Detection using Computer Vision	Sahithi Ankireddy (James B. Conant High School)

PM TRACK #1

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<p style="text-align: center;">Saturday, October 10, 2020 Hopin: Breakout Room B Security and Communications Track, Computer Systems Track, Human-Computer Interaction and Graphics Track, Theoretical Computer Science and Mathematics Track Track Chair: TBD</p>		
TIME	PAPER TITLE	PRESENTERS
12:30PM	PA20-0012: MobSF: Mobile Health Related Android Applications Through The Lens of Open Source Static Analysis	Grace LaMalva (St. John's University)
12:40PM	PA20-0120: Aquaculture: A Cost-Effective Automated Aquaponic Gardening System	Justin Cooper , Macone Connor (Wentworth Institute of Technology)
12:50PM	PA20-0032: Share &Care: A Senior-Friendly Family Interaction Application	Jin Chen (The City College of New York CUNY)
1:00PM	PA20-0049: Integrating Natural Language Processing & Computer Vision into an Interactive Learning Platform	Rithesh Rajasekar , Benson Liu, Aditya Shukla, Lucy Xu (Rutgers Honors College)
1:10PM	PA20-0098: Programming an Educational Chatbot to Support Virtual Learning	Rachel Ai , Disha Kohli, Lee Maina, Evelyn Manelski (Rutgers School of Engineering)
1:20PM	PA20-0115: Exploration of SVD for Image Compression and Time Series Processing	Jesse Redford (University of North Carolina)
1:30PM	PA20-0009: System Design for Remote Pulse Examination	Tung Pham (Wentworth Institute of Technology)
1:40PM	PA20-0077: MusCare: A Mobile Design for Muscle Monitoring	Chrishopher Dombe (Wentworth Institute of Technology)
1:50PM	PA20-0104: Mobile Microclimate System for Architectural Fieldwork	Qian Ying Zeng (Wentworth Institute of Technology)
2:00PM	FIRST LEGO League: Team Blue Box - Project Research	Anthony Wan, Anna Sun, Gauri Valiyodiyil, Sree Krothapalli, Robert Albu, Sasha Luchanok, Jocelyn McGarry, Govind Valiyodiyil
2:10PM	FIRST LEGO League: Team ICE Box - Project Research	Matthew Dona, Stafen Barbu, Aditya Biju

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<p style="text-align: center;">Saturday, October 10, 2020 Hopin: Breakout Room C Circuits, Materials, and Nanotechnologies Track, Innovative Technologies Track Track Chair: TBD</p>		
TIME	PAPER TITLE	PRESENTERS
12:30PM	PA20-0008: Aluminum-Calcium Composite Conductors: The Future of America's Power Grid	Jennifer Lew (Palos Verdes Peninsula High School)
12:40PM	PA20-0064: A Tight-Binding Model for Gallium Oxide: The Newest Ultra Wide-Bandgap Semiconductor	Yifan (Frank) Zhang , Bill Liu (Cornell University)
12:50PM	PA20-0087: An Analog Front-End for a Photoplethysmography Patch to Monitor Respiratory Rate	Mona Elokda (Worcester Polytechnic Institute)
1:00PM	PA20-0092: Electrical Power System Design and Test for Maine's First CubeSat (MESAT1)	Joseph Patton (University of Maine)
1:10PM	PA20-0116: Analysis of Lithium-Ion Battery Failure and PyBaMM's Viability in Simulating Them	Alexander Cho , Daniel Vail, Patrick Wang, Greyson Sapio (Rutgers University)
1:20PM	PA20-0149: A Low Cost Power Efficient Wireless Soil Moisture Sensor Network for Forest Ecosystem Monitoring	Thayer Whitney (University of Maine)
1:30PM	PA20-0112: Thermal Simulation of a CPU Based on Model Order Reduction	Kayla Ruttan (Clarkson University)
1:40PM	PA20-0118: Partial Discharge Detection By Classification of Tesla-Coil Music	Kai Shraiberg (Wentworth Institute of Technology)
1:50PM	PA20-0129: Low Cost Vaping Detectors to Mitigate Teenage Vaping	Aarushi Pant (Westborough High School)