



Sunday, October 13, 2024 (Stata Center 32-123)

Track #A (8:30am to 10:00am)

Track Chair: Sreeram Dhurjaty



Time	Lightning Talk Title	Presenters	Technical Track
8:30AM	Lightning Talk ID-241 Traffic Monitoring System Using Flask, OpenCV, and SQLite	Katherine Arpino (Wentworth Institute of Technology)	Technology of Engineering
8:35AM	Lightning Talk ID-256 Increasing Global crop yield by enhancing Drought and Arsenic resistance in <i>Oryza sativa</i> by hyperexpression of aquaporin genes	Prisha Bhat (Plano East Senior High School)	Technology of Sustainability
8:40AM	Lightning Talk ID-268 Concentration Dependent Architecture and Biocompatibility of Vaginal Extracellular Matrix Hydrogels for Biomimetic Pelvic Organ Prolapse Repair	Zachary Miller (University of Pittsburgh)	Technology of Humanity
8:45AM	Lightning Talk ID-298 Leveraging Cloud-Based Computational Models for Enhanced Efficiency in Irrigation Systems	Romir Jain, James Li (Westwood High School)	Technology of Sustainability
8:50AM	Lightning Talk ID-303 Air Quality Monitoring Using a Machine Learning- Enabled Digital Nose: An Experimental Study	Ziyao Ma (Concord Carlisle High School)	Technology of Automation
8:55AM	Lightning Talk ID-304 Development of Novel Inhibitors of BET1 Protein for Targeted Therapy Against Leukemia through Proteolysis-Targeting Chimeras (PROTAC)	Roma Reddy (Germantown Academy)	Technology of Computation
9:00AM	Lightning Talk ID-337 LLM-Based Tracing Management for User-Friendly Performance Analysis in the Cloud	Peter Zhao (Boston University)	Technology of Networks
9:05AM	Lightning Talk ID-361 WTG Biotech: Redesigning Recovery	Jessica Woyton (Wentworth Institute of Technology)	Technology of Engineering
9:10AM	Lightning Talk ID-385 Detecting Depression in Social Media with NLP Models Trained on Journal Entry Data	Tvisha Choubey (Amador Valley High School)	Technology of Automation
9:15AM	Lightning Talk ID-388 AI-Based Early Detection of Respiratory Infections Using Cough Sounds	Rishith Vadlamani (Strawberry Crest High School)	Technology of Humanity
9:20AM	Lightning Talk ID-391 Advancing 3D Ultrasound Imaging: A Cost-Effective Adaptation of Conventional 2D Scanners	Nicholas Gellrich (Union College)	Technology of Engineering
9:25AM	Lightning Talk ID-392 Predicting Strategies for Loan Repayment Plans Using Machine Learning	Sidhya Pathak (University of Virginia); Calvin Hodor (Purdue University)	Technology of Computation



Sunday, October 13, 2024 (Stata Center 32-123)

Track #A (8:30am to 10:00am)

Track Chair: Sreeram Dhurjaty



Time	Lightning Talk Title	Presenters	Technical Track
9:30AM	Lightning Talk ID-393 What Should We Grow Today to Make Money Tomorrow?	Anubha Mahajan (Georgia Institute of Technology)	Technology of Automation
9:35AM	Lightning Talk ID-399 Utilizing Novel VAE Pipeline for Tau Inhibitor Screening Validated in Drosophila Melanogaster Alzheimer's Models	Prisha Rai (High Technology High School)	Technology of Computation
9:40AM	Lightning Talk ID-402 Biodegradable Circuit Boards	John Hedley (Norwich University)	Technology of Engineering
9:45AM	Lightning Talk ID-409 PURE: Prompt Understanding and Regulation for Ethics	Subhang Bhatti (Stanford Online High School)	Technology of Automation
9:50AM	Lightning Talk ID-421 Design and Analysis of an Air Quality Monitoring System	Nell Neary (University of Massachusetts Lowell)	Technology of Engineering
9:55AM	Lightning Talk ID-424 Identification of Stellar Clusters in the Milky Way Using Unsupervised Learning Algorithms	Julia Holmes (Stanford University Online High School)	Technology of Exploration
10:00AM	Lightning Talk ID-437 Psysensor: A Novel Algorithm Integrating Biopsychosocial Profiles for Precise Treatment of Mood and Anxiety Disorders Utilizing Self-Supervised Learning	Shreyas Musuku (Manalapan High School)	Technology of Humanity



Sunday, October 13, 2024 (Stata Center 32-123)

Track #B (10:30am to 12:30pm)

Track Chair: Aisha Yousuf



Time	Lightning Talk Title	Presenters	Technical Track
10:30AM	Lightning Talk ID-448 Cracking the “Stink” Gene Code: Computational Chemistry Identifies a Novel Approach to Treating Bromhidrosis	Natalie Chen (Bridgewater-Raritan High School)	Technology of Computation
10:35AM	Lightning Talk ID-460 Analog Computers for Efficient Computation of Partial Differential Equations	Shrey Jain (Alpharetta High School); Vedang V Dicholkar (FCS Innovation Academy)	Technology of Computation
10:40AM	Lightning Talk ID-462 Improving Estonian Energy Production Forecasting with Lagged Time Series Machine Learning Models	Affan Mokhashi (Bakersfield College)	Technology of Sustainability
10:45AM	Lightning Talk ID-472 User Interface Recommendations Based on Technological Perceptions from Athletic Personnel In Low Income Areas	Siddharth B Sheth (John P. Stevens High School)	Technology of Humanity
10:50AM	Lightning Talk ID-481 Novel 3D Auxetic Geometries for Hip Prosthetic Applications	Mayank Deoras (NJ Governor's School in the Sciences); Ishaan Ghosh, Ayush Tripathi (Edison Academy Magnet School); Karthik Thallam (VIRTUAL) (South Brunswick High School); Mihir Tekal (John P. Stevens High School)	Technology of Humanity
10:55AM	Lightning Talk ID-482 mm3DPose: A Real-Time 3D Human Tracking and Pose Construction Using Millimeter-Wave Radar Systems	Samhita Pokkunuri (Old Bridge High School)	Technology of Automation
11:00AM	Lightning Talk ID-484 Improving Early Diabetes Identification Through Deep Neural Networks and Class-Based Loss Weighting	Idhikashini Nagalingam (Independent Researcher)	Technology of Humanity
11:05AM	Lightning Talk ID-487 A Comparative Study of Machine Learning Algorithms for Predicting 1-Year Mortality in Geriatric Hip Fracture Patients	Jacob J Cobb (Massachusetts Institute of Technology)	Technology of Computation
11:10AM	Lightning Talk ID-501 Extending Testbed for Wifi-Based Localization	Jordan Hendricks (UMass Boston)	Technology of Networks
11:15AM	Lightning Talk ID-505 BrailleSense: An Innovative Octagonal Drum Mechanism for Cost-Effective and Efficient Refreshable Braille Display Systems	Ansh Malhotra, Anush Devkar (Thomas Jefferson High School for Science and Technology)	Technology of Humanity
11:20AM	Lightning Talk ID-512 Provenance for AI Model Weights: The Backbone for Preventing New AI Model Attacks and Threats	Matyas Bohacek (Stanford University)	Technology of Computation
11:25AM	Lightning Talk ID-483 Language-Enhanced Heterogeneous Triplet Attention for Gene-Disease Relationship Prediction	Preston Schmittou (George Mason University); Quan M Huynh (Woodson High School)	Technology of Computation
11:30AM	BREAK		



Sunday, October 13, 2024 (Stata Center 32-123)

Track #B (10:30am to 12:30pm)

Track Chair: Aisha Yousuf



Time	Lightning Talk Title	Presenters	Technical Track
11:35AM	Lightning Talk ID-009 (VIRTUAL) Machine Learning for Economic Projections: Predicting Income Dynamics from Census Data	Veer Gupta (Morris Hills)	Technology of Computation
11:40AM	Lightning Talk ID-017 (VIRTUAL) GNSS Observations of TEC, Scintillation, and Positioning Error in the Ionosphere during STEVE	Richard Chen (Andover High School)	Technology of Networks
11:45AM	Lightning Talk ID-269 (VIRTUAL) Leveraging Natural Language Processing to Identify Diseases Given Symptoms	Abhiram Godavarthy (American High School)	Technology of Automation
11:50AM	Lightning Talk ID-278 (VIRTUAL) Mitigating Bias in Reinforcement Learning from Human Feedback for Large Language Models	Chaithanya Ravulu (Rocket Companies)	Technology of Computation
11:55AM	Lightning Talk ID-286 (VIRTUAL) Decoding the catalytic mechanism of trypsin: insights from mutant studies and structural constraints	Abigail Chiang (Palos Verdes Peninsula High School)	Technology of Humanity
12:00PM	Lightning Talk ID-287 (VIRTUAL) CRISPR-MIDD: A Deep Learning Approach To Identify Potential CRISPR-CAS9 Mismatch and Indel Active Off-Target Sites	Ishita Sengar (Thomas Jefferson High School for Science & Tech)	Technology of Automation
12:05PM	Lightning Talk ID-290 (VIRTUAL) Integrating LLMs into a Tri-Modal Architecture for Automated Depression Classification	Santosh Patapati (University of Washington)	Technology of Humanity
12:10PM	Lightning Talk ID-293 (VIRTUAL) Comparison of Antimicrobial Resistance in Global Wastewater Treatment Plant Influent and Effluent Through Culture-Independent Metagenomic Analysis	Vedanth Ramji (APL Global School)	Technology of Sustainability
12:15PM	Lightning Talk ID-307 (VIRTUAL) In Silico Analysis of Cardiac Disease Proteins Biomarker by Using Aptamers	Tanmayi Vinapamula, Tanmayi Sri Vinapamula (Independence High School)	Technology of Computation
12:20PM			
12:25PM			
12:30PM			



Sunday, October 13, 2024 (Stata Center 32-123)

Track #C (1:00pm to 3:00pm)

Track Chair: James Byleckie



Time	Lightning Talk Title	Presenters	Technical Track
1:00PM	Lightning Talk ID-314 (VIRTUAL) CarcNet - Compound Carcinogenicity Prediction with Molecular Fingerprints and Graph Attention Network	Bryan Zhu (Bellevue High School)	Technology of Computation
1:05PM	Lightning Talk ID-319 (VIRTUAL) Using the Electrodermal Activity Signal to classify Physical Stress from Relaxation	Akshith Reddy Putta (Cambridge Centre for International Research)	Technology of Humanity
1:10PM	Lightning Talk ID-369 (VIRTUAL) Renewable-Powered Smart Microgrid Design for Energy Independence in the Shinnecock Nation	Vinav Shah (The Pingry School)	Technology of Sustainability
1:15PM	Lightning Talk ID-371 (VIRTUAL) Misinformation in Technology and Media: How It Affects the Perception of Career Fields	Terrion L Morrow; Deziree Mora (School for the Talented and Gifted at Townview Magnet Center)	Technology of Humanity
1:20PM	Lightning Talk ID-373 (VIRTUAL) Predictive Modeling of Antibiotic Resistance Evolution Through Deep Sequence Analysis	Pranshu Suyal (High Technology High School)	Technology of Humanity
1:25PM	Lightning Talk ID-377 (VIRTUAL) GENIE: Genetic Evaluation and Naive Inference for Early Diagnosis of Fabry Disease	Ishaan Ghosh, Srivarun Kankanala (Edison Academy Magnet School)	Technology of Humanity
1:30PM	Lightning Talk ID-389 (VIRTUAL) Enhancing Wildfire Forecasts: An Extensive Dataset for Next-Day Predictive Models	Sunny Zhang, Saanvi Mhatre (University of North Texas)	Technology of Sustainability
1:35PM	Lightning Talk ID-396 (VIRTUAL) Pair creation of strong magnetic field in Neutron Stars	Diane Michel (Cambridge Center for International Research)	Technology of Engineering
1:40PM	Lightning Talk ID-397 (VIRTUAL) Improving Landmine Detection and Classification Using Ensembled Deep Learning and Stacked Hybrid Models	Alexander Hizem (Westside High School)	Technology of Humanity
1:45PM	Lightning Talk ID-415 (VIRTUAL) Using Machine Learning to Determine the Ranking of Biomarkers in Disease Onset	Sanaa Bhorkar (The Harker School)	Technology of Humanity
1:50PM	Lightning Talk ID-428 (VIRTUAL) Adaptive Traffic Management: Integrating Right-of-Way Calculations and Policy Gradient Techniques	Jacob Heldt (German International School The Hague); Rohan Arni (High Technology High School); Anmol Gopalak (NextGen ML)	Technology of Automation
1:55PM	Lightning Talk ID-434 (VIRTUAL) URBAN: Analyzing Urban and Agricultural Data with Deep Learning for Sustainable Development Policies	Srivarun Kankanala (Edison Academy Magnet School); Mihir Tekal (John P. Stevens High School)	Technology of Sustainability
2:00PM	BREAK		



Sunday, October 13, 2024 (Stata Center 32-123)

Track #C (1:00pm to 3:00pm)

Track Chair: James Byleckie



Time	Lightning Talk Title	Presenters	Technical Track
2:05PM	Lightning Talk ID-457 (VIRTUAL) Identifying Key Factors for Femicide Prevention and Policy Development: Leveraging Supervised Machine Learning with Temporal and Geospatial Analysis	Melissa Alfaro-Zeledon (Dubiski Career High School); Rida Karim (Woodson High School)	Technology of Humanity
2:10PM	Lightning Talk ID-463 (VIRTUAL) An Attention-Based Approach to Short-Term Snow Water Equivalent Forecasting for More Sustainable Water Management	Srivarun Kankanala (Edison Academy Magnet School); Mihir Tekal (John P. Stevens High School)	Technology of Sustainability
2:15PM	Lightning Talk ID-476 (VIRTUAL) Enhancing Predictive Accuracy of Red Imported Fire Ant Distribution Modeling	Surya Reddy (Jordan High School)	Technology of Sustainability
2:20PM	Lightning Talk ID-478 (VIRTUAL) Exploring Factors That Impact the Effectiveness of Test Suites in Mutation Testing	Sai Sri Vastav Minnal (Edison Academy Magnet School)	Technology of Computation
2:25PM	Lightning Talk ID-493 (VIRTUAL) An MRI-based method for MGMT promoter status classification using local binary pattern	Ayush Tripathi (Edison Academy Magnet School)	Technology of Automation
2:30PM	Lightning Talk ID-496 (VIRTUAL) ACIONNA: Advanced Acoustic Imaging for Precision Detection of Survivors in Flood Events	Harini Penumuchu (Foothill High School)	Technology of Sustainability
2:35PM	Lightning Talk ID-499 (VIRTUAL) Gesture-Based Computing for the Physically Impaired	Dhanvinkumar Ganeshkumar (Thomas Jefferson High School for Science and Technology)	Technology of Humanity
2:40PM	Lightning Talk ID-503 (VIRTUAL) Improving Large Language Models for Medical Question Answering Tasks with Reasoning Strategies	Ryan Luo Li (BASIS Independent Fremont)	Technology of Automation
2:45PM	Lightning Talk ID-507 (VIRTUAL) OncoNote: A Natural Language Processing Framework for Early Pan-Cancer Survival and Recurrence Prediction via Unstructured Clinical Narratives	Vrishank Chandrasekhar (Lynbrook High School)	Technology of Humanity
2:50PM			
2:55PM			
3:00PM			