

2025 Symposium for Undergraduate Research in Data Science, Systems, and Security (REU Symposium 2025), Wednesday, November 12

Room: South American B

Workshop Chairs: Jianwu Wang, Xuechen Zhang, Xiaokun Yang, Xinghui Zhao, Matthias K. Gobbert

Workshop website: <https://biadatareu.unibs.edu/reu-avmgcolun/reu-symposium-2025/>

Time (US Eastern Time)	Title	Authors
	Session 1: LLM and Nature Language Processing, Session Chair: Xuechen Zhang	
9:00-9:15	S02210: PubMedRAG: Retrieval-Augmented Generation for Biomedical Question Answering	Hamsini Gupta, Aswini Sivakumar, Yao Qiang, and Huirong Fu
9:15-9:30	S02204: Can a Large Language Model Win a Kaggle Competition?	Ilya Gordyy, Estevan Rendon Jr., Niful Islam, Mohammad Wardat, and Huirong Fu
9:30-9:45	S02209: InfectPrompt: Inducing Vulnerabilities in C/C++ Functions Using LLMs for GNN-based Vulnerability Detection	Joelle Dizon, Lauren Kwon, Caden Hicks, Ekincan Ufuktepe, Prasad Calyam, and Kannappan Palaniappan
9:45-10:00	S02223: Using stance detection models to improve our understanding of the firearm policy debate on social media	Imani Allah, Camden Baucom, Jelani Beaugris, Chloe Bogen, Rylee Brown, John Cheek, Kathleen Higgins, Erin Kendall, Charles Prince, Unzila Sakina, Riley Stacy, Sultana Yeasmin, Mohamed Ahmed, Rebecca Ansell, and Lisa Singh
10:00-10:30	Coffee Break	
	Session 2: Machine Learning, Session Chair: Xiaokun Yang	
10:30-10:45	S02201: Change Detection and Land Cover Classification of Flooded Regions in UAVSAR Imagery Using Deep Learning	Kevin Tang, Christopher Pena Gonzalez, Nami Lieberman, Samantha Lee, Yuanwei Jin, and Enyue Lu
10:45-11:00	S02205: Data-Driven Predictive Modeling of Microfluidic Cancer Cell Separation Using a Deterministic Lateral Displacement Device	Elizabeth Chen, Andrew Lee, Md Tanbir Sarowar, and Xiaolin Chen
11:00-11:15	S02212: Revisiting Vital Signs Inference Across Subjects with COTS mmWave Radar	Areesh Sobhani, Qiuye He, and Yugyung Lee
11:15-11:30	S02214: Large-Scale Optimizations in Proton Beam Radiotherapy by Neural Network Denoising of Robust Simulated Patient Data	Angelo Calingo, Bikash Gautam, Peter Jin, Sidhya Pathak, Michelle Zhao, Hussam Fateen, Harrison Lewis, Matthias Gobbert, Vijay Sharma, Lei Ren, Ananta Chalise, Stephen Peterson, and Jerimy Polf
11:30-11:45	S02215: Accelerating Deep-Learning Applications with Efficient Tensor Layout Management	Keenan Powell, Rubayet Rongon, Xiaokun Yang, and Xuechen Zhang
11:45-12:00	S02216: Context-Aware Linking of Text Documents for Thematic Tracing	James Wallace, Saad Hussaini, and Mario M Kubek
12:00-12:15	S02217: Periodicity-Enforced Neural Network for Designing Deterministic Lateral Displacement Devices	Andrew Lee, Mahir Mobarrat, and Xiaolin Chen
12:15-12:30	S02218: Deep Learning Approaches for Cloud Property Retrieval: Comparing Foundation Model Fine-Tuning with Training from Scratch	Danielle Murphy, Kevin Zhang, Caleb Parten, Autumn Sterling, Haoxiang Zhang, Xingyan Li, Jordan Caraballo-Vega, Jie Gong, Mark Carroll, and Jianwu Wang
12:30-14:00	Lunch Break	
	Session 3: Machine Learning, Session Chair: Matthias K. Gobbert	
14:00-14:15	S02219: Deep Learning for Modeling and Dispatching Hybrid Wind Farm Power Generation	Zach Lawrence, Jessica Yao, and Chris Qin
14:15-14:30	S02220: A Comparative Analysis of Object Detection Models for Plant Leaf Counting under Overlapping Foliage Conditions	Elijah Sagarán, Martin Ha, Olena Molla, Shanlin Qian, Rahi Misra, Mario Giraldo, Rashida Hasan, Li Liu, and Xunfei Jiang
14:30-14:45	S02221: When Splits Matter: Interpreting Disaster Tweet Classification Models	Jamie Livers, Nicholas Johnson, Kyle Spurlock, and Olfa Nasraoui

14:45-15:00	S02222: Mitigating Catastrophic Forgetting Using Improved Clustering-based Episodic Memory	Owen Beabout, Abigail Dodd, Titus Murphy, and Enyue Lu
15:00-15:15	S02224: Leveraging Hybrid Representations for Robust Molecular Property Prediction in Low-Data Regimes	Alex Liu, Haomin Zhuang, Olaf Wiest, Ying Cheng, and Xiangliang Zhang
15:15-15:30	S02225: CRISIS: Classification of Response Intent via Social Media for Improved Support	Joseph Schmidt, Antony Romano, Ademola Adesokan, and Sanjay Madria
15:30-15:45	S02226: Multimodal Learning with Intermediate Fusion for Enhanced Arrhythmia Classification	Melissa Matteo, Mahjabeen Abed, and Xinghui Zhao
15:45-16:00	S02213: Parameterized Hardware Generation for Mini-Float Summation-of-Absolute-Differences for AdderNet based CNN Models	Spencer Buchanan, Cameron DiSomma, Jose Ramos, Yunxiang Zhang, Wenfeng Zhao, and Xiaokun Yang
16:00-16:30	Coffee Break	
	Session 4: Security and Systems, Session Chair: Xinghui Zhao	
16:30-16:45	S02202: Evaluating the Robustness of Invisible Watermarking Against Adversarial Attacks	Cat Lewin, Rui Duan, and Yugyung Lee
16:45-17:00	S02206: Trust-Aware Task Allocation with Quantum Optimization in Adversarial Multi-Agent Systems	Giselle Roman Barroso, Duy Ho, Luke Miller, Ahmed Alanazi, and Yugyung Lee
17:00-17:15	S02207: Resilient Multi-Agent Task Allocation through Trust-Aware Quantum-Inspired Optimization	Joseph Ko, Jaydine Stiles, Ahmed Alanazi, Luke Miller, Duy Ho, and Yugyung Lee
17:15-17:30	S02211: Hardware Generation for Quantum Gate Emulation and Acceleration	Jeremy Turner, Cameron DiSomma, Xuechen Zhang, Lei Fan, and Xiaokun Yang
17:30-17:45	S02208: GEM-Style Constraints for PEFT with Dual Gradient Projection in LoRA	Brian Tekmen, Jason Yin, and Qianqian Tong