

## **Data Science Program**

### **POSTER SESSION, 2:30pm to 4:00pm**

#### **Unity Hall 400**

##### **FATE: A Fourier Accelerated Tensor Engine for Neural Networks**

Jack Adiletta (DS/ECE)

Advisor: Ulkuhan Guler & Bashima Islam

##### **Urban Cooling Infrastructure Design Informed by Social Network Data**

Kathleen Wang (DS), Zabelle Simmons (Arch Eng), Nicholas Sirota (Arch Eng), Kathy Tran (ME/Arch Eng), & Vanessa Sam (DS)

Advisor: Fabricio Murai, Nan (Nancy) Ma, Nima Rahbar

##### **Navigating Seasonality and Distribution Drift: Forecasting User Traffic for DraftKings**

Aaron Brady (DS), Jane Howard (DS), Alysha Creelman (DS), Erika Sojka (DS), & Megan Gilman (CS)

Advisor: Rick Brown & Randy Paffenroth

##### **FinTech Project B24 - GFWM - Sustainable Investments**

Humza Qureshi (DS), Vu Le (CS/DS), Trajan Espelien (CS/Math), Brandon Lui (CS), & Andrew Kovacs (FinTech)

Advisor: Marcel Blais, Kwamie Dunbar, Matthew Ahrens, & Wilson Wong

##### **MGH-Brigham: Scribing, Rx Refill and Lab Abstraction Metrics**

Deena Selitsky (DS), Kenyon Coleman (CS), Hanzalah Qamar (CS), Hannah Moran (MIS), Aleksandr Samarin (CS), & Madison Quattlander (BUS)

Advisor: Wilson Wong, Adrienne Hall-Phillips, Daniel Treku, Kwamie Dunbar, & Marcel Blais

##### **Spatial-Temporal Multi-Tasking Model**

William Abraham (DS), Jeffrey Chan (DS), & Nicholas Ishigami (CS)

Advisor: Yanhua Li

##### **AI for Impact: App Development and Deep Learning for Inferring Risk for Mental Distress and Suicide via Smartphones**

Anthony Titcombe (CS), Priyanka Narasimhan (CS), Alexander Zhang (CS), Emily Hudson (CS/Math), Dana Granara (CS/Math), Duncan Farquharson (DS)

Advisor: Elke Rundensteiner & Randy Paffenroth

##### **Building an AI Companion For Enhancing Financial Literacy**

Ryan Dalton (DS), Rohan Prasad (DS), Andy Truong (CS), Olivia Perez (CS), Leo Hirano (CS)

Advisor: Wilson Wong, Marcel Blais, & Shubbhi Taneja

##### **Citizens - Open Banking Tracking & Insights**

Danilo Ruberti (BUS/DS), Matthew Maguire (BUS/DS), Nicholas Leslie (CS), Alexander Presser (IMGD), & Gabriel Shiu (CS)

Advisor: Adrienne Hall-Phillips, Marcel Balis, & Wilson Wong

##### **Disaster-Resilient Building Design: Informing Context-Aware Window Choices with Computer Vision**

Collin Shields (CS), Jacquelian Ngo (Arch Eng), Sage Fredrich (Arch Eng), & Aidan Bryar (DS)

Advisor: Fabricio Murai & Nan (Nancy) Ma

##### **CS: MQP: Generative AI Engine for Hamilton Storage (Sponsored MQP)**

Edward Smith (CS/DS), Joseph Thesmar (CS), Aleksandra Antoski (CS), Abelardo Broche Ortiz (CS), & Thomas McDonagh (CS)

Advisor: Lane Harrison & Xiangnan Kong

##### **CS: MQP: Harrison: ReVISit-ing the Classics: Evaluating A Framework for Replicable Data Visualization Experiments (2024-2025)**

Iris Nycz (DS), Abigail Kratman (CS), Ashton Kittur (CS), Antonio Henrique Costa Ferreira (CS), & Kayla Lem (CS)

Advisor: Lane Harrison

### **CS: MQP: Mapping Global China: Visualization Design and Development**

Rachel Foye (DS), Jack Weinstein (CS), Edward Stump (CS), & Justin Healey (CS)

Advisor: Lane Harrison

### **EcoTarium Explorer: Enhancing Accessible Navigation**

Arnav Mishra (CS/DS), Myles St. Jean (CS), Parker Frizzle (CS), & Sophia Kalavantis (CS)

Advisor: Rodica Neamtu

### **Assessing Performance Differences of Various Machine Learning Methods in Alzheimer's Detection Across Male and Female Structural MRI (sMRI) Data**

Noah Martins (DS), Mahir Sowad (CS), & Jackson Martinez Balcazar (CS)

Advisor: Angela Incollingo Rodriguez, Benjamin Nephew, & Dmitry Korkin

### **Designing for Productivity, Exploring the Cognitive Impact of Architectural Design**

Meghan Lyle (DS), Alissa Cloutier (Arch Eng), & Adrienne Saucier (Arch Eng)

Advisor: Matthew Ahrens & Soroush Farzin

### **Return on Investment: Converting Efficiency into Profitability**

Pedro Leao (DS), Matthew Rosenberger (DS/IE), Vaughn Weston (MIS), Agustin Alzate (IE), Amrit Kaur (IE), Jack O'Connell (BUS)

Advisor: Fatemeh Emdad, Jim Ryan, & Joe Zhu

### **Distributed Computing for Association Analysis of Whole Genome Sequencing Data**

Kylie Hoar (BCB/DS) & Peter Howell (BCB)

Advisor: Zheyang Wu

## **POSTER SESSION, 2:30pm to 4:00pm Unity Hall 500**

### **Exploration of Novel Methods for a More Efficient Implementation of the Feature Embedding Method**

Zelin Hao (DS), Kobe Richards (DS), Andrew Brush (DS), & Jacob Silvester (CS)

Advisor: Torumoy Ghoshal

### **Fidelity FMT - Create The Fidelity Metrics Store**

Mansi Gera (DS), Sophia John (CS), Harshith Iyer (CS), John Chau (DS/Man Eng), & Halim Faker (BUS/IE)

Advisor: Marcel Blais, Renata Konrad, Joshua Cuneo, Wilson Wong, & Xin Gao

### **Fidelity Investments: Early Career Portal**

Taeha Song (CS/DS), Michael Sensat (Man Eng), Camden Harris (FinTech), & Seyda Usalan (CS)

Advisor: Wilson Wong, Kwamie Dunbar, Marcel Blais, & Xin Gao

### **FinTech Project B24 - MGH-Brigham - IBO Enhancement**

Lakshmi Gade (DS), Emma Paradis (DS), Luke Grady (CS), Shafath Zaman (CS), & Dhruv Patel (CS)

Advisor: Wilson Wong & Marcel Blais

### **Dual-Mode Language-Model Mobile Assistant: A Multilingual Application Integrated with InnoSpire Glasses for Supporting Visually Impaired and Blind Individuals**

Andrew Mesa (CS/DS), Yitao Hong (CS), & Lianrui Sun (CS)

Advisor: Chun-Kit Ngan

### **Intelligent Drone-Based GPR for Root-Zone Soil Moisture Characterization: Data Collection and Analysis**

Charlotte Larson (DS), Dylan Hoffman (DS), & Patrick Hussey (DS)

Advisor: Doug Petkie & Seyed Zekavat

### **Slicing the Hypercube**

Nathaniel Itty (CS/DS), Ryan Offstein (CS), & Blake Bruell (CS)

Advisor: Daniel Reichman & Gabor Sarkozy

### **Machine Learning in Cyber Security**

Yang Yi (DS), Sarah Kogan (CS), & Nathan Poch (Math)

Advisor: Randy Paffenroth

### **Meissa Microgrid | Multi-Tenant Renewable Energy Monitoring Platform with Solar PV Tracker Controls**

Edward Dang (CS/DS), Vien Le (CS), Yinuo Zhao (CS/RBE), Andrew Qi (ME), Aliaa Hussein (RBE)

Advisor: Berk Calli & Seyed Zekavat

**Monitoring Indoor Heat Stress Using Cellphones During Extreme Heat**

Sander Coscia (DS), Sam Chiu (DS), & Hazel Green (CS)

Advisor: Shichao Liu & Ziming Zhang

**Optimizing Database Queries using Source Program Analysis**

Qixing Xue (CS/DS)

Advisor: Roe Shraga

**Advancing Climate Resilience in Worcester Through a “Cool Routes” Pedestrian Navigation Application**

Jacob Friend (DS/ESS), Katelyn Beirne (DS), & Anthony Previte (CS)

Advisor: Chun-Kit Ngan & Stephen McCauley

**Optimizing WooSox Ticket Sales and Fan Engagement Strategies**

Justin Che (DS), Akshay Shinde (DS), Nathan Willemssen (DS), Jack Mahoney (DS/Man Eng), Gavin George (BUS)

Advisor: Adrienne Hall-Phillips & Marcel Blais

**Predicting Students' Mental Health Using Facial Expression Data**

Aiden Johnson (DS), Dylan Grady (DS), Rosaline Guo (CS/Math), Dale Asante (CS/Psy Sci), Pegah Emdad (BCB/DS)

Advisor: Elke Rundensteiner, Kaitlyn Schneider, Oren Mangoubi, & Shichao Liu

**Neural Imaging Classification and Feature Importance**

Olivia Cava (DS)

Advisor: Randy Paffenroth

**Principal Score Modeling for the Survivor Average Treatment Effect**

Sean Sullivan (Act Math/DS)

Advisor: Adam Sales

**Recommendation System for Event Planning**

Kai Zhou (DS), Rishi Patel (CS), Youssef Benchikhi (CS), & Aaron Zhang (CS)

Advisor: Xiangnan Kong

**Topic Detection in a Set of Documents using Large Language Models**

Kashvi Singh (DS), Raj Ganguli (CS), Khoi Pham (CS), Sarah Semy (CS), Amina Laddaoui (DS)

Advisor: Roe Shraga

**Evaluating Machine Learning Models for Autism Detection: A Structural MRI Study of Male vs. Female Brain Patterns**

Alisha Peeriz

Advisor: Angela Incollingo Rodriguez, Benjamin Nephew, & Dmitry Korkin