

# Computer Science

## POSTER SESSIONS

### Innovation Studio, Second Floor

10:00am-12:00pm

#### **PATHly Visualizer: Exploring Anycast Stability in IPv4 and IPv6**

Jack Campanale, Jasper Meggitt, Yash Patel, Cindy Trac

Advisor: Mark Claypool

Sponsor: Fastly

Project Center: Silicon Valley Project Center

10:00am-12:00pm

#### **Developing a 3D Food Printer**

Ashley Burke, Nupur Shukla

Advisors: Rodica Neamtu, Danielle Cote (ME)

10:00am-12:00pm

#### **Z^3 Wellness: An Enhanced Sleep Health Application for Better Sleep and Mental Wellness**

Eri Kim, Patrick Mejia

Advisor: Carolina Ruiz

10:00am-12:00pm

#### **Warden: Multi-Layered Control Flow Integrity in Web Applications**

Keith DeSantis, Samuel Parks, Kush Shah

Advisor: Craig Shue

10:00am-12:00pm

#### **Neurotype Cafe Visual Novel**

Lena Dias, Harmoni Larrabee, Mitch Tanguay

Advisors: Rose Bohrer, Ben Schneider

10:00am-12:00pm

#### **Data-Driven Computational Approaches in Pain Medicine**

Aidan Burns, Lauren Flanagan, Smera Gora

Advisors: Lisa Ann Conboy (Harvard Medical), Benjamin Nephew (Biology & Biotechnology), Carolina Ruiz

10:00am-12:00pm

#### **Efficiency Analysis of Partner Organizations: Poverty Stoplight**

Kayla Brown, Rebecca Noris, Catherine Salvaggio, Hayden Smith

Advisors: Ryan Madan (PW), Daniel Reichman, Andrew C. Trapp (IE/DS)

Sponsor: Poverty Stoplight

10:00am-12:00pm

#### **A Visual-Based Educational Support Platform for Teaching and Learning Neural Network-Based NLP Analytics**

Jack Gomes, Daniel Johnson, Garrett McMerriman, John Prominski, Henry Yoder

Advisor: Chun-kit Ngan (DS)

10:00am-12:00pm

#### **Understanding and Optimizing Mistake Messages in Mathematics**

Shannen Lin, Siddhartha Pradhan, Chayanne Sandoval-Williams

Advisors: Neil Heffernan, Stacy Shaw (SSPS)

10:00am-12:00pm

#### **Advancing Diffusion Models for Human Activity Recognition**

Sirut Buasai, Jason Dykstra, Dillon McCarthy, Cindy Trac

Advisor: Elke Rundensteiner (DS)

10:00am-12:00pm

#### **Exploring the Effects of Latency Compensation Techniques on Player Performance and Experience in FPS Games**

Ivan Klevanski, Alexander Mitchell, Yihong Xu, Sitsanok Young

Advisor: Mark Claypool

Sponsor: NVIDIA

10:00am-12:00pm

#### **Fidelity: AI Based Anomaly Detection**

Aruzhan Koshkarova, Nathan Kumar, Mitchell Sirois, Austin Zhou

Advisors: Marcel Y. Blais (MA), Robert Sarnie (BUS), Wilson Wong

Sponsor: Fidelity

10:00am-12:00pm

#### **Patients Views of Cancer Immunotherapy on Social Media and Online Forums**

Sidney Goldinger, Florkenthia Jolibois, Sierra Mangini, Mago Sheehy, Tiffany Wee Sit

Advisor: Ngan Chun-kit (DS)

10:00am-12:00pm

#### **Mobile Device Software-Defined Networking**

Matthew Hlushko, Ivan Martinovic, Jacob Salerno

Advisor: Craig Shue

10:00am-12:00pm

**Developing a Wildlife Crime Media Aggregator**

Julie Andrade, Michael Geary, Bao Huynh  
Advisors: Kyumin Lee, Renata Konrad (MG), Oren Mangoubi (MA)  
Sponsor: Meredith Gore, Patricia Raxter

10:00am-12:00pm

**Feature Recognition of Aerial Images Using Machine Learning**

Ryan Firenze, Margaret Munroe, Sebastian Pineda, Amos Roche, Arman Saduakas  
Advisors: Oren Mangoubi (MA), Gregory Noetscher (ECE)  
Sponsor: DEVCOM Soldier Center

10:00am-12:00pm

**Sailbot**

Samuel Alden, Douglas Moore, Cameron Pelletier, Owen Pfannenstiehl, Joshua Unger  
Advisors: William Michalson (RBE), Kenneth Stafford (RBE)

10:00am-12:00pm

**NASA Lunabotics Competition 2022-23**

Alex Brattstrom, Carter Bullock, Roopsa Ghosh, Patrick Hagearty, Helen Le, Joshua Moy  
Advisors: Kenneth Stafford (RBE), Joshua Cuneo (CS)  
Sponsor: NASA

10:00am-12:00pm

**Fair Ranking Under Uncertainty**

Marie Tessier, Sai Varun Vadlamudi, Brinda Venkataraman  
Advisors: Jon Abraham (MAC), Elke Rudensteiner

10:00am-12:00pm

**USDA Foodborne Illness Outbreak Detection and Visualization**

Katy Hartmann, Timothy Kwan, Jasmine Laber, Anne Lapsley, Liam Rathke  
Advisor: Elke Rudensteiner

10:00am-12:00pm

**Coalition Formation and Scheduling for Heterogeneous Robot Swarms with Ant Colony Optimization**

William Babincsak  
Advisor: Carlo Pinciroli

10:00am-12:00pm

**Applying Explainable AI to Taxi Driver Classification**

William Burke, Ian Coolidge, JinRyoul Kim  
Advisor: Yanhua Li

10:00am-12:00pm

**Evolving Neural Networks**

Gregory Conrad, Gabriel Deml, Aidan Horn  
Advisor: Joseph Beck

10:00am-12:00pm

**FinTech Project B22 - Woo Sox - Improving Polar Park's Total Fan Experience via the Woo Sox Mobile App.**

Qui Nguyen, Kara O'Neil, Bridget Redgate  
Advisors: Sara Saberi (Business), Robert Sarnie (Business), Wilson Wong  
Sponsor: Worcester Red Sox  
Project Center: FinTech Project Center

10:00am-12:00pm

**Worcester IS Fab Lab MQP Blockchain and Machine Learning**

Joshua DeBare, Mabel Konadu, Kelsey Moody, Cameron Morreale  
Advisors: Marcel Blais (MA), Rob Sarnie (BUS), Wilson Wong  
Sponsor: Embue, Cyvl, Worcester IS FAB Lab

10:00am-12:00pm

**Audio Journal Android App**

Anna Cherkinsky, Vansh Patel, Reily Siegel  
Advisors: Lane Harrison, Rodica Neamtu  
Sponsor: Audio Journal

10:00am-12:00pm

**ScreamaeraX: Modeling Laryngeal Surgical Robots Using Differential Dynamic Logic**

Natalie McClain  
Advisors: Rose Bohrer, Loris Fichera (RBE)

10:00am-12:00pm

**The Way**

HChen, JColley, FShen, JSmith  
Advisors: MAhrens, Walt Yarbrough (IMGD)

10:00am-12:00pm

**Third Party Aggregator Development for FDX API Integration at Citizens Bank**

Chelsea Chang, Kevin Inger, Jonathan Metcalf, Jack Sullivan  
Advisors: Robert Sarnie (BUS), Wilson Wong  
Sponsor: Citizens Bank  
Project Center: Wall Street FinTech

1:00pm-3:00pm

**Developing Quality of Life Features for the E-TRIALS Platform**

Emily Gorelik  
Advisor: Neil Heffernan

1:00pm-3:00pm

**Goatconnect - developing a student-athlete network application**

Loren DiLoreto, Jacob Feiss, Harrison Kyriacou  
Advisor: Rodica Neamtu  
Sponsor: Chris Robertson (Head Football Coach)

1:00pm-3:00pm

**Chaos Engineering for Cloud Resiliency**

Nestor Lopez, Renee Sawka, Olivia Scola  
Advisors: Robert Sarnie (BUS), Wilson Wong  
Sponsor: State Street  
Project Center: Wall Street/FinTech Project Center

1:00pm-3:00pm

**GPU-Accelerated Simulations for Artistic Performance**

Evelyn Tran  
Advisor: Charles Roberts

1:00pm-3:00pm

**Exposing the Imposter's Hunger for Power: Hardware Keylogger Attack Detection**

Brianna Roskind  
Advisors: Patrick Schaumont (ECE), Robert Walls

1:00pm-3:00pm

**Simulator for Teacher-Student Classroom Interactions**

Mary Braen, Gabriel Camacho, Emily Lin, Ryan Luu, Aidan Mulcahey, Jonathan Palmieri  
Advisor: Jacob Whitehill(CS)

1:00pm-3:00pm

**Generating Solitaire Games**

Patrick Eaton, Benjamin Gilchrist, Alex Martinho, Kyle McFatter, Jason Odell  
Advisor: George Heineman

1:00pm-3:00pm

**Robot Escape Room**

Olivia Bell (IMGD/CS), Liang Lu (RBE/CS), Zachary Sarrett  
Advisors: Berk Calli (RBE), Melissa Kagen (IMGD), Gillian Smith

1:00pm-3:00pm

**Small-Size Soccer Robots**

Spencer Belleville, Conner Christensen, Ashley Espeland, Logan Rinaldi, Nathan Rogers, Benjamin Schwantes, Evan Vadeboncoeur, Yifei Zhao  
Advisors: Stephen Bitar (ECE), Joshua Cuneo, Alireza Ebadi (ME), Siavash Farzan

1:00pm-3:00pm

**Sewn Into Memory: Reliving Memories Through An AR Quilt**

Amanda Jones, Megan Letendre, Elise Nerden  
Advisors: Gillian Smith, Erin Solovey

1:00pm-3:00pm

**Remote-Controlled Mixed Reality Driving Experience**

Greg Klimov, Samuel Kwok, Cole Manning, Mason Powell, Sam Rowe, Adam Yang  
Advisor: Tian Guo  
Sponsor: NSF

1:00pm-3:00pm

**SocialSight: Analyzing Social Media**

Carlie Flanagan, Kiara Munz  
Advisor: George Heineman

1:00pm-3:00pm

**Distribution-Driven Augmentation of Real-World Datasets for Improved Cancer Diagnostics With Machine Learning**

Stephen Price  
Advisors: Rodica Neamtu, Winston Soboyejo (ME)

1:00pm-3:00pm

**BCI**

David Danielian  
Advisors: Ally Howell (BCB), Erin Solovey

1:00pm-3:00pm

**Learning Debiased Representations for Long-Tailed Visual Recognition**

Prudence Lam  
Advisor: Ziming Zhang (ECE)

1:00pm-3:00pm

**Creating the Pwnable Claw Machine**

Arthur Ames, Charlotte Clark, Evelyn Dube, Declan Murphy  
Advisors: Robert Walls, Loris Fichera (RBE)

1:00pm-3:00pm

**Piniverse: General Content Creation Framework**

Gabriel Buonomano, Shiming De, Alexander Kwan, Yongcheng Liu, Yihong Xu  
Advisors: Tian Guo, Gillian Smith

1:00pm-3:00pm

**Analyzing DASH Video Streaming over Geostationary Satellite Networks**

Daniel Quackenbush, Kristi Prifti, Zijian Guan  
Advisor: Mark Claypool  
Sponsor: Viasat

1:00pm-3:00pm

**7Factor 2022-2023: Staffing Tool**

Keval Ashara, Othniel Bondah, Nicholas Li

Advisor: Joshua Cuneo

Sponsor: 7Factor Software, LLC

1:00pm-3:00pm

**Built Environment MQP**

Hailey Anderson, Phebe Cunningham, Payton Dean, Gianna Viele, Sebastian Villacorta, Nicholas Whalen

Advisor: Leonard Albano (AE) Soroush Farzin (AE)

Ali Yousefi

1:00pm-3:00pm

**Electric Triumph Spitfire MKIV (1972)**

Blaise Pingree, Bradley Sprunger, Grace Magnotta, Pat Flanigan, Sean McMillan, Shane Donahue,

Wynn Roberts

Advisors: Craig Putnam (RBE), Donald Brown (ECE), Joshua Cuneo, Nicholas Bertozzi (RBE),

1:00pm-3:00pm

**Incremental Earley Parsing of Incomplete Inputs for Structured Editing**

Finn Wander

Advisor: Gary Pollice

1:00pm-3:00pm

**Expanding Beecology Project's Data Analysis Capabilities for Butterfly Observations**

Sophia Strano

Advisors: Carolina Ruiz, Elizabeth Ryder (BCB)

1:00pm-3:00pm

**Audio Journal: empowering visually impaired people to access exhibits at the Worcester Museum of Art**

Zane Carey, Vrandol Perez, Daniel Rabinovitz, Marko Vila, Michael Zeolla

Advisors: Lane Harrison, Rodica Neamtu

Sponsor: Worcester Art Museum

1:00pm-3:00pm

**Bismuth: A Programming Language for \_ Distributed, Concurrent & Mobile Systems**

Alex Friedman

Advisors: Rose Bohrer, Yunus Telliel (PW)

1:00pm-3:00pm

**Development of Predictive and Prescriptive Analytical Models Using Customer, Revenue, and Usage Data**

WBazakas-Chamberlain, AKihu, MO'Connor, SWu

Advisors: Robert Sarnie, Wilson Wong

Sponsor: SaaSWorks

Project Center: FinTech

1:00pm-3:00pm

**Modular Package for Autonomous Driving**

Rohan Anand, Martin Bleakley, Allison Colon, Ian Khung, Ishan Rathi

Advisor: Pradeep Radhakrishnan (ME)

1:00pm-3:00pm

**Imperius**

Matthew Hendrickson, Benjamin Martin

Advisors: Joseph Beck, Ben Schneider (IMGD)

1:00pm-3:00pm

**Implementation of a Cloud-Based Enterprise Resource Planning System for Gompei's Goat Cheese**

Gabrielle Acquista, Victoria Buyck, Benjamin Sakac, Sohrob Yaghouti

Advisors: Michael Engling, Jim Ryan (Business)

Sponsor: Gompei's Goat Cheese

1:00pm-3:00pm

**Library Technology**

Brandon Scanlon, Oliver Yasuna

Advisor: George Heineman

1:00pm-3:00pm

**Jitter and Latency in Cloud Game Streaming**

Ryan Darcey, Botao Han, Sean O'Connor,

Wenjie Zhang

Advisor: Mark Claypool

1:00pm-3:00pm

**The Way**

HChen, JColley, FShen, JSmith

Advisors: MAhrens, Walt Yarbrough(IMGD)

1:00pm-3:00pm

**Assessing Path-Planning Algorithms for Collaborative Multi-Robot Exploration with Memory Constraints**

Nicholas Grumski, Abigail Hyde

Advisor: Carlo Pinciroli (RBE)

1:00pm-3:00pm

**Creating a Multi-Robot, Multi-Human, Multi-Platform System**

Samantha Braun, Alyssa Magaha

Advisors: Jane Li, Carlo Pinciroli

1:00pm-3:00pm

**Marching Band Simulator**

Braden Arnold, Sydney Gardner, David Mahany, Jacob Matthews

Advisors: Joshua Rosenstock (HUA), Gillian Smith

*1:00pm-3:00pm*

**Detecting Clouds and Forecasting Power of a PV System**

Erin Carter, Emma Pruitt, Olivia Rockrohr,  
Megan Hanlon

Advisors: Tian Guo, Gregory Noetscher (ECE),  
Ziming Zhang (ECE)

*1:00pm-3:00pm*

**Convert a Windows-based software (BoGL) to a Web-based system**

Margaret Earnest, Jakob Misbach, Anthony Vuolo III

Advisors: David Brown, Pradeep Radhakrishnan