Mathematical Sciences Dept.
Stratton Hall 201

PRESENTATIONS, 9:00am to 1:40pm

9:00am
AI for Impact: Developing the LEMURS Mental Health Screening Smartphone App
Emily Hudson, Dana Granara
Advisor: Randy Paffenroth, Elke Rundensteiner

09:12am
GraphRAG vs. RAG: A Comparative Evaluation of LLM Performance
Anna Balin, Inaya Siddiqui, Andrew Cash, Katie Strogach, Roberto Sabater
Advisor: Marcel Blais, Wilson Wong, Shamsnaz Bhada

09:24am
Title
Trajan Espelien
Advisor: Marcel Blais

09:36am
Reconstruction of Current Density in MXenes using Magnetic Field Data from Quantum Sensors
Camille Williams, Sona Hanslia
Advisor: Vadim Yakovlev, Kateryna Kushnir Friedman, Raisa Trubko

9:48am
Optimal Defect Layer Position In Electromagnetic Energy Absorbers
Zachary Adams
Advisor: Burt Tilley, Vadim Yakovlev

BREAK, 10:00am to 10:12am

10:12am
Marketing Analysis for Music
Aayan Krishan, Nate Kaalman, Keyang Li, Paige Scully
Advisor: Fangfang Wang, Frank Zou

10:24am
FPGA Accelerated SAT Solver
Collin Streck
Advisor: Herman Servatius

10:36am
Analyzing a Ghanaian Board Game
William Sakalauskis, Bernhardt Adler
Advisor: Brigitte Servatius, Herman Servatius

10:48am
Unique and Stable Determination of a Crack in a Half Space Governed by Laplace's Equation
Karl Ramus
Advisor: Darko Volkov

11:00am
Scalable Solver for Helmholtz Equation
Nicholas Kirby
Advisor: Marcus Sarkis-Martins

11:12am
Derivation of a general solution to the Euler-Bernoulli Beam Equation using the similarity transformation method.
Will Perri
Advisor: Bill Sanguinet

BREAK, 11:24am to 11:36am

11:36am
Polysolve, a Graph-Based Calculator
Alexander Gu, Conner Olsen
Advisor: Randy Paffenroth

11:48am

Changes in Radiomic Feature Outputs

Ronit Avadhuta

Advisor: Brigitte Servatius, Herman Servatius

12:00pm

Kirchhoff Graphs Hold Chemical Meaning

Grace Baumgartner

Advisor: Joseph Fehribach, Ronald L. Grimm

12:12pm

Developing a Thermal Energy Storage System for Energy Efficiency

Matthew Lydon

Advisor: Burt Tilley, Mehdi Mortazavi

12:24pm

Investigation of cortical vs rat ionic channels in transcranial magnetic stimulation simulations

Jared Seehusahai

Advisor: Bill Sanguinet

BREAK, 12:36pm to 12:48pm

12:48pm

Franchise Value and Interest Rate Sensitivity

John King

Advisor: Barry Posterro and Jon Abraham

1:00pm

Machine Learning in Cyber Security

Nathan Poch, Yi Yang, Sarah Kogan

Advisor: Randy Paffenroth

1:12pm

Equivalent resistances in finite and infinite dual graphs

Lil Peeler

Advisor: Brigitte Servatius, Mostafa Asheghan

1:24pm

Toward Discrete, Incomplete Market Cost Efficiency

Konrad Gomez-Haibach

Advisor: Stephen Sturm