

Center Highlights Fall 2021

NAME CHANGE

This fall, we have many exciting developments to share. We updated our name to the Center for Machine-Intelligence, Computing and Security to better reflect our work as it pertains to analytics, Artificial Intelligence, and Machine Learning. The Center's mission and goals remain unchanged. Indeed, our faculty continue to be acknowledged for their research and collaboration with colleagues at UC San Diego and other institutions. Our students are becoming shining stars themselves, both in the classroom and as they graduate and take new positions at other institutions and companies. As the end of 2021 approaches, we are grateful for your support and we look forward to continued partnerships in 2022.



HYPATIA FELLOWSHIP

Named in honor of the ancient Greek mathematician and one of the oldest star computing women in the historical record, the Hypatia Fellowship initiative seeks to provide funding and mentorship for underrepresented graduate students. Diversity has been part of the MICS Center's DNA from the start. We are proud to provide an environment that celebrates the work and achievements of our female faculty and students. Through this fellowship, we can invest in even more rising stars that will go out to shine in the world and bring about change.



Andrew Kahng



Tara Javidi



Farinaz Koushanfar

FACULTY WIN NEW GRANTS AND PROJECTS

MICS faculty are leads or co-leads on several multi-million National Science Foundation grants awarded over the past months.

The Institute for Learning-Enabled Optimization at Scale (TILOS) – led by Professor Andrew Kahng with Tara Javidi (Co-PI and Networking co-Lead), Farinaz Koushanfar, and Tajana Rosing. The TILOS mission is to make impossible optimizations possible, at scale and in practice.

MURI/AutoComBOT: Autonomy in Cyberspace through robot learning and Man-Bot teaming – led by Farinaz Koushanfar with Tara Javidi. Auto-ComBOT introduces a novel multi-pronged approach to address the standing challenges for future warfare involving a multitude of cyber bots.

RLBox Framework – Deian Stefan. Using the RL-Box Framework developed last year, the team aims to create new techniques, frameworks, and principles for browser developers with the goal of increasing browser security without high costs and long timelines.

Scale MoDL: Representation Theoretic Foundations of Deep Learning – Rose Yu. This project will study strong theoretical foundations for deep learning using representation theory and the role of symmetry.

Professor Yu is also the lead on a Department of Energy grant to apply machine learning and artificial intelligence to climate data sets.

Tajana Rosing



Deian Stefan



Rose Yu



STUDENT AND ALUMNI SPOTLIGHT

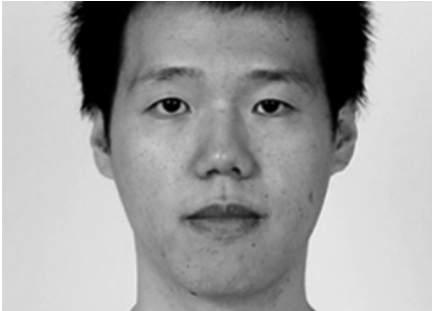


Soroush Ghodrati (PhD Candidate, advised by Hadi Esmaeilzadeh)
Recipient of a 2021 Google PhD Fellowship in Systems Networking



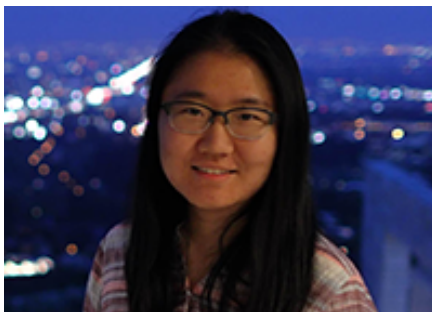
Nancy Ronquillo (PhD 2021) and **Sung-En Chiu** (PhD 2019)

Winners of the 2021 IEEE Communications Society & Information Theory Society Joint Paper Award for their paper, "Active Learning and CSI Acquisition for mmWave Initial Alignment" written with their advisor Tara Javidi. This award recognizes outstanding papers in any publication of the IEEE Communications Society or the Information Theory Society within the past three calendar years.



Shubhanshu Shekar (PhD 2021)

Winner of UC San Diego's Shannon Graduate Fellowship, recognizing the exceptional quality of his technical accomplishments with advisor Tara Javidi as well as collaborator and MICS Professor Siavash Mirabab



Yuhan Shi (PhD candidate, advised by Professor Duygu Kuzum)
Selected to present at MIT's EECES Rising Star Workshop on Neuro-inspired Computing Using Resistive Memory Devices