

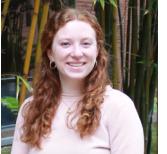
SCHOLARS

MHI 2022-23 PhD SCHOLARS

Each year, a select group of PhD students from the ECE Department are chosen as Ming Hsieh Institute Scholars. These students are carefully reviewed by a faculty committee on the basis of their research accomplishments and desire for an academic career. They assist MHI in carrying out its mission.

**Ragib Ahsan**

Advisor: Rehan Kapadia

**Lillian Clark**

Advisor: Bhaskar Krishnamachari

**Kazem Bakian-Dogaheh**

Advisor: Mahta Moghaddam

**Gourav Datta**

Advisor: Peter Beerel

**Arash Fayyazi**

Advisor: Massoud Pedram

**Emily Reed**

Advisor: Paul Bogdan

The 2022-2023 MHI PhD Scholars organized two beneficial panel discussions for our PhD students: Life After the PhD and Job Market Industry Panel and Life During the PhD Panel. These two panel speakers were composed of many of our own former MHI PhD Scholars such as Pradipta Ghosh, Fateme Alishahi, Chelsea Luo, Zalan Fabian... etc and some of the industry partners of ours. The panels were attended by many current PhD students with very positive feedbacks.

MHI 2022-23 UNDERGRAD SCHOLARS

2022-2023 marked the formation of the MHI Undergrad Scholar cohort. Each MHI Undergrad Scholar excels in doing research as an undergraduate student. Two of the first cohort received NSF Graduate Research Fellowships. They also led the formation of Undergraduate Research Hub to build a community for undergraduates that are doing research to get together to exchange ideas and experiences.

**Lorand Cheng**

Advisor: Bhaskar Krishnamachari

**John Heo**

Advisor: Massoud Pedram

**Jocelyn Liu**

Advisor: Eli Levenson-Falk

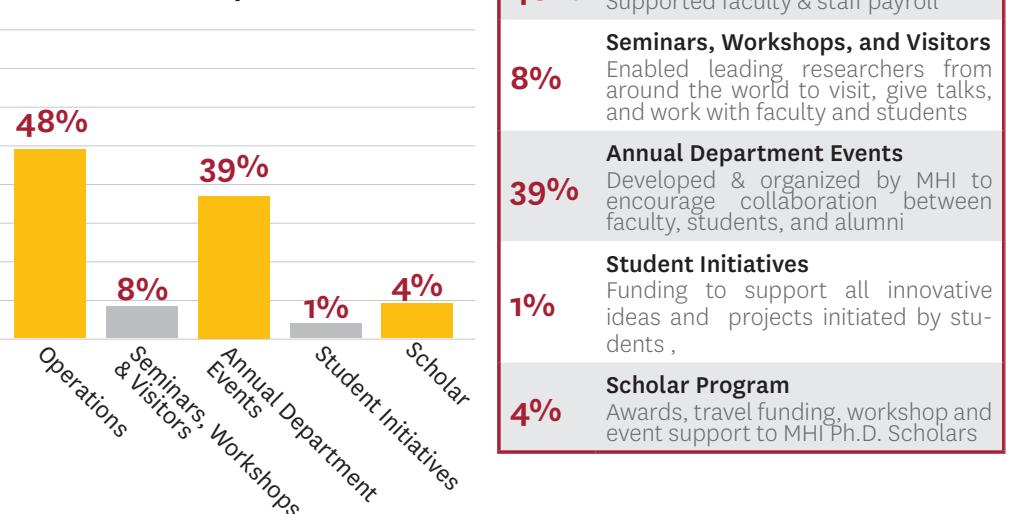
**Larry Wang**

Advisor: Bhaskar Krishnamachari

MING HSIEH INSTITUTE

The Ming Hsieh Institute (MHI) is focused on enhancing academic and research programs within the Ming Hsieh Department of Electrical and Computer Engineering. Through supporting innovative activities and hosting leading researchers from around the globe, MHI helps position the department at the forefront of emerging fields within electrical and computer engineering.

MHI Expenses



MHI Leadership

Shri Narayanan, Director

Hossein Hashemi, Co-Director

Bhaskar Krishnamachari, Co-Director

Cathy Huang, Business Officer

Benjamin Paul, Communications Manager

2022-2023 Faculty Advisory Council

Salman Avestimehr

Rehan Kapadia

Mahta Moghaddam

Krishna Nayak

Antonio Ortega

Mike Chen

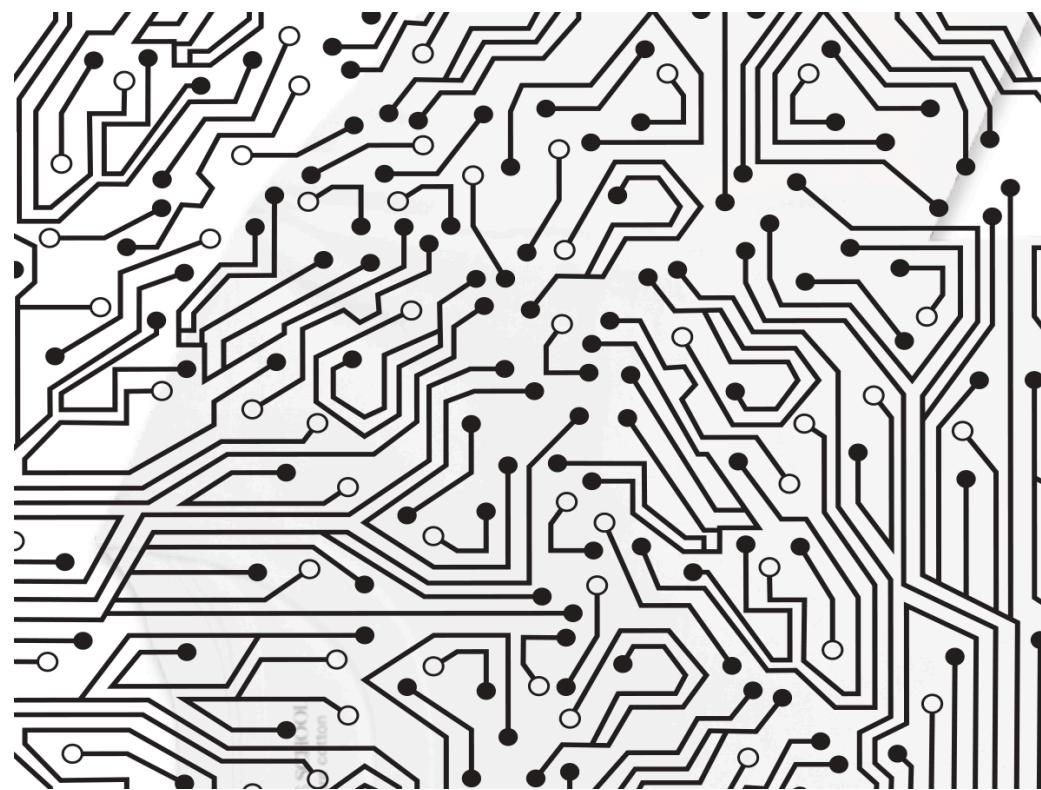
Mihailo Jovanovic

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USCViterbiSchool of Engineering
Ming Hsieh Department of
Electrical and Computer Engineering

Ming Hsieh Institute

intelligent technologies to empower mankind

by Ecem Bozkurt

ANNUAL REPORT

2022/2023

SEMINARS

MHI USC Photonics Seminar Series

This series aims to bring together students, researchers and faculties from USC ECE and beyond to interact with the leading worldwide experts in optics and photonics area.

2022-23 Number of speakers: ~16-18

2022-23 Budget: \$10,000

MHI Integrated Systems Seminar Series

This series hosts researchers to cover topics related to integrated circuits, systems, and related devices in the context of diverse applications including communication, computation, networking, sensing and imaging. Speakers from academia and industry covered topics related to brain-inspired integrated circuits for computation and communications, silicon integrated circuits, and high-speed integrated transceivers.

2022-23 Number of speakers: ~9

2022-23 Budget: \$10,000

MHI Medical Imaging Seminar Series

This series features lecturers from leading universities and medical institutions in the US and abroad on all topics related to the various aspects of medical imaging. (Due to the pandemic, this seminar series was paused for 2020-21)

2022-23 Number of speakers: 4

2022-23 Budget: \$0

MHI Computer Engineering Research Seminar Series

This series offers an interdisciplinary perspective on the cutting-edge research and development in the field of computer engineering. Computer engineering deals with the design, development, testing, and evaluation of components, systems, and networks. (Due to the pandemic, this seminar series was paused for 2020-21)

2022-23 Number of speakers: 0

2022-23 Budget: \$0

MHI Nano Materials and Devices Seminar Series

This series aims to expose students to cutting-edge research in the field of nanotechnology. In 2018-19, leaders in academia and industrial research institutes shared their most recent achievement in the diverse field of nanoscale materials, devices and systems.

2022-23 Number of speakers: 0

2022-23 Budget: \$0

MHI Center for Systems and Control-CommNetS Seminar Series

This series is a weekly seminar that brings together faculty and students in communications, networks and controls. One of the primary goals of the series is to expose students to the work taking place in other areas of engineering. (Due to the pandemic, this seminar series was paused for 2020-21)

2022-23 Number of speakers: 0

2022-23 Budget: \$0

MHI Open House

An Open House for all undergraduates that are new to ECE. Students were able to interact with professors and upper classmen casually to ask questions. We were so excited to host this event in person this year. The students were very eager to attend and learn about their new home for the next 4 years.



ECE Annual Research Festival

The 12th Annual Research Festival marked another milestone after the pandemic. This year, the participation from our researcher had exceed pre-pandemic level with research from more diverse research areas such as robotics, microelectronics, quantum computing...etc. Both our researchers and industry partners were excited to build the in person engagement and collaboration again.



MHI T-shirt Competition

MHI signature t-shirt has a new design created by our own community. The submission is opened to all students, faculty and staff. A total of 14 submissions was received and the final winner is voted by the ECE community during the 13th Annual Research Festival. The winning design was by Ecem Bozkurt. Now the design is printed on the latest MHI t-shirt.



IEEE Signal Processing Outreach

Groups of high school students were invited on to USC campus to learn about the various areas of Signal Processing. Funded by the IEEE and executed by the Ming Hsieh Institute where long lasting modules were created by our own PhD students for many high schools to utilize in their school curriculum..



SPIPI 50

Signal and Image Processing Institute at USC ECE celebrated its 50 year of establishment. This remarkable milestone was celebrated with a walk down the memory hall with all the accomplishment occurred at home and joined with many new and familiar friends on the institute.



exploreCSR

Funded by Google Research and executed by the Ming Hsieh Institute. exploreCSR recruit a group of our own graduate students to mentor our undergraduates in the computational research area. Mentors grouped according to their specialty resulted in three research areas: Computer Vision, Core Machine Learning, and Natural Language Processing. Through general learning session and broken down to small groups, undergrad participants are able to come up with their own project ideas and demo the results.



ECE PhD Commencement Celebration

ECE PhD graduates from the class of 2023 were invited to celebrate their accomplishments from wherever they are at. Their family and friends from all around the world called in to celebrate this proud moment with them. Faculty advisors shared moments and stories of the graduates with their family and friends.

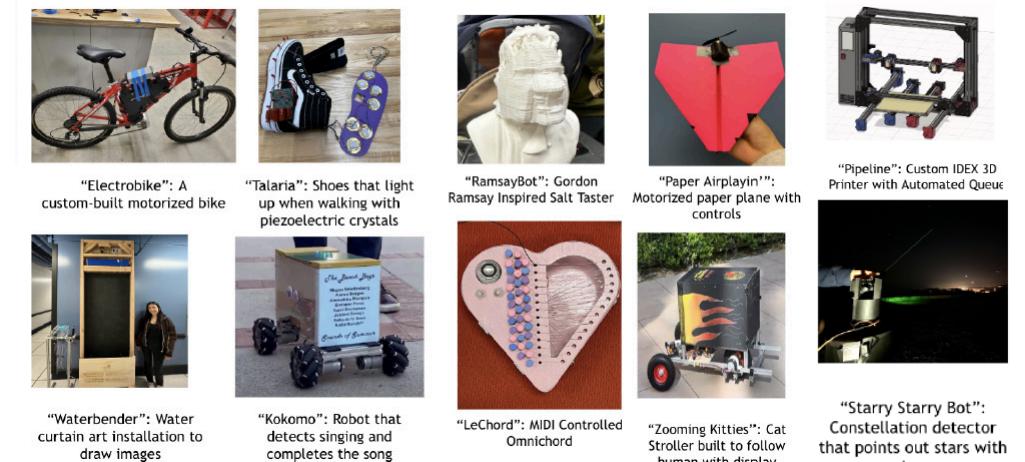


STUDENT ORGANIZATIONS

MHI 2022-23 USC MAKERS

USC Makers is an organization dedicated to the intersection of engineering and creativity. Makers believe in exploring the joy of engineering and sharing it with others in the community. Housed within the Ming Hsieh Institute, Makers provides a collaborative, interdisciplinary environment for different engineering majors to develop project and further their technical skills.

In 2022-2023, Makers year-long hardware centric projects merged a variety of member interest from the arts to 3D printing. Projects were supported through internal checkpoints and external design reviews with faculty and industry partners.



MHI 2022-23 USC IEEE

Hack IoT is a 24-hour hackathon that focuses on the innovation and the integration of the Internet of Things. This year's Hack IoT was held on April 1-2, 2023 in the Hughes Aircraft Electrical Engineering Building with the topic "Sense-Ability", which allowed students to focus on the integration of sensors related to human senses into their projects. There were 24 participants who formed a total of 7 teams as well as approximately 10 students from IEEE that make up the volunteer staff..

