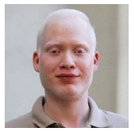
SCHOLARS

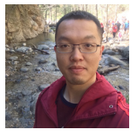
MHI 2020-21 PhD SCHOLARS

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.



Romil Audhkhasi
Advisor: Michelle Povinenellli

Hesameddin Mohammadi
Advisor: Mihailo Jovanovic



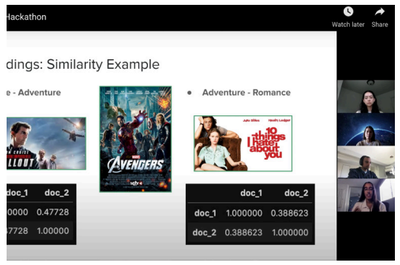
Xiaodong Yan
Advisor: Han Wang

Aoyang Zhang
Advisor: Mike Chen

The MHI Scholars hosted the Industry Panel with MHI Scholars. The Scholars invited two industry speakers (one junior and one very experienced) and collected questions from our PhD students about potential career path, job market...etc. Our Scholars curated the whole panel discussion. The panelists they invited were: Dr. David Tratt from The Aerospace Corporation and Dr. Hossein Mobahi from Google Research. They were able to expand their connection with the panelists from research collaboration to a discussion that can benefit the whole ECE community.

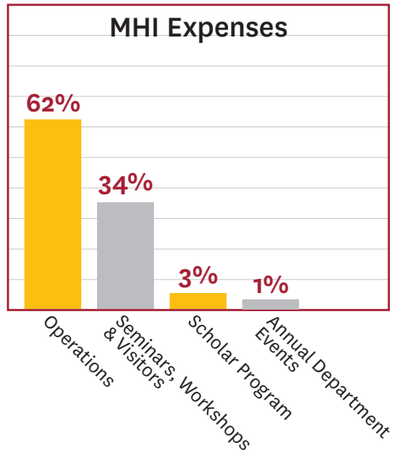
EXPLORECSR

Sponsored by Google Research, hosted by the Center of Computational Media Intelligence (CCMI) operated with The Ming Hsieh Institute, organized a series of workshops for undergraduate students. The workshops are led by a group of PhD graduates as mentors to provide both technical and softskills to the undergraduate students. The workshops provided opportunities for participants to learn about ML technologies and interact with leaders in industry and academia, and hoping to inspire the participants to pursue engineering and be a leader in building media intelligence. Participants are exposed to experts and pioneers in the development of media intelligence that aims to computationally understand the who, what, where, how and why - type questions in entertainment (TV, movies, ads, News, etc). The mentors had the advantage of being situated at the intersection of human-centered AI and the world of entertainment and commercial media. Please visit our website for more info: https://sail.usc.edu/~ccmi/csr/



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.



62%	**Operations**	Supported faculty & staff payroll
34%	**Seminars, Workshops, and Visitors**	Enabled leading researchers from around the world to visit, give talks, and work with faculty and students
3%	**Scholar Program**	Awards, travel funding, workshop and event support to MHI Ph.D. Scholars
1%	**Annual Department Events**	Developed & organized by MHI to encourage collaboration between faculty, students, and alumni

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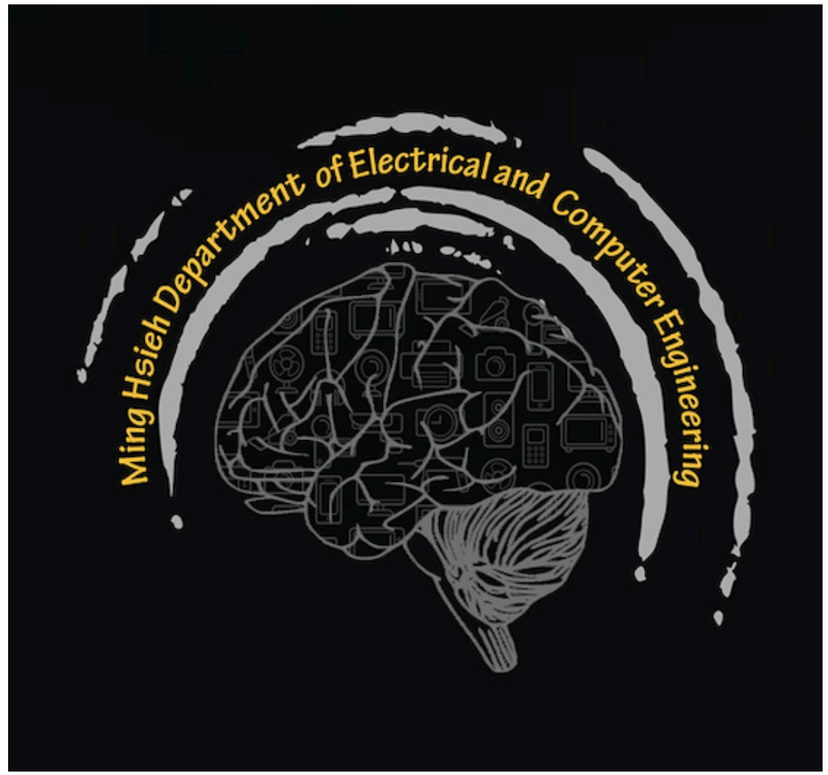
Ming Hsieh Institute

intelligent technologies to empower mankind



by Sashank Kumar Macha

ANNUAL REPORT 2020/2021

SEMINARS

MHI Industry Research and Technology Seminar

Developed in the Fall of 2016, this series focuses on inviting speakers from industry to share their technical expertise. Speakers and ECE students exchange ideas and brainstorm solutions. The seminar series worked together with the department as Professional Enhancement seminar. In Fall, a total of 5 seminars with speakers from Freedom Photonics, Amazon, Verizon...etc.

MHI+Center for Cyber-Physical Systems & IoT Joint Seminar Series

The second edition of the Cyber-Physical Systems Seminar Series was especially active this year. Visitors from industry and leading universities participated in the Spring as part of class EE 598. Even more talks will be scheduled for Fall of 2019.

2020-21 Number of speakers: 23

2020-21 Budget: $0 (conducted online)

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)

2020-21 Number of speakers: 0

2020-21 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 componenets, systems, and networks. (Due to the pandemic, this seminar series was paused for 2020-21)

2020-21 Number of speakers: 0

2020-21 Budget: $0

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.

2020-21 Number of speakers: 1

2020-21 Budget: $0 (conducted online)

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)

2020-21 Number of speakers: 0

2020-21 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.

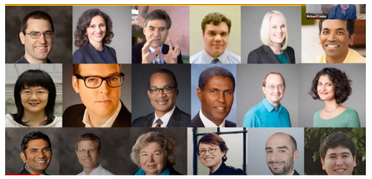
2020-21 Number of speakers: 3

2020-21 Budget: $0 (conducted online)

August 2020

MHI Open House - Undergraduates

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. Due to the special circumstance, the Open House was conducted online this year. A welcome package was sent to new ECE undergrads.



August 2020

ECE Siblings Program

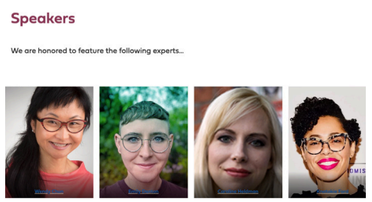
Due to the special circumstances, many incoming undergrad and graduate students were not able to have the campus experience for the first year. ECE Siblings Program matched an incoming student with an upper classmate to learn about campus life and how to weather through this special year.

August 2020

CCMI Media Understanding Workshop

MHI has been working with Google Research as part of the Center of Computational Media Intelligence on bringing awareness and understanding of media. The first workshop focused on identity and indentificaiton in computational media.

For more info:
https://sail.usc.edu/~ccmi/understanding-media-workshop/



March 2021

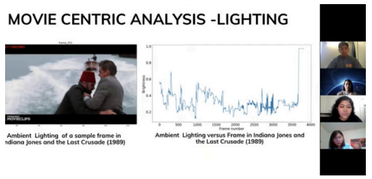
ECE Industry Partnership

Many things are on pause during the pandemic, but not the research and industry partnership at USC. Three research centers were established during the past year: USC-Amazon Center on Trusted AI, USC-Dynamic Imaging Science Center, and USC-Google Center for Computrational Media Intelligence

May 2021

exploreCSR Hackathon

exploreCSR participants gathered to showcase the computational skill over various media topics they have learned from the workshop series. The mentors and the participants spent a lot of time analyzing music, advertisement, movie...etc.



May 2021

ECE PhD Commencement Celebration

ECE PhD graduates from the class of 2021 were invited to celebrate their accomplishments from whereever they are at. Their family and friends from all the around the world called in to celebrate this proud moment with them.

May 2021

USC Makers Showcase

The Spring Showcase was the culmination of different student teams working throughout the school year on unique ECE projects. The projects usually were built by teams meeting in person. However, the pandamic did not stop the USC Makers from their creativity. Students figured out various logistics to ensure members can still build and create during this exceptional time.