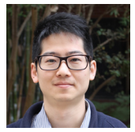
SCHOLARS

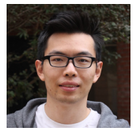
MING HSIEH INSTITUTE
2017-18 PhD SCHOLARS

Each year, a select group of PhD students from the EE 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.

Long Li
Advisor: Alan Willner



Yihang Liu
Advisor: Chongwu Zhou



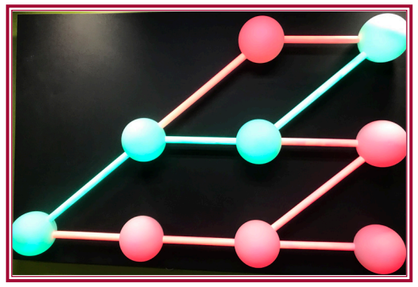
Xiaohan Wei
Advisor: Michael Neely

Divya Varadarajan
Advisor: Justin Haldar

CELEBRATING 50 YEARS OF VITERBI ALGORITHM

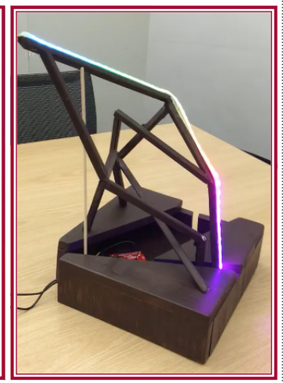
Viterbi Algorithm Art Competition

1st Place
Artist: Ryan Winters
Title: Welcome

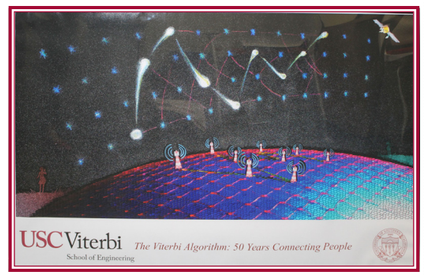


2nd Place (Left)
Artist: Anton Shkel
Title: Wireless Communication with the Viterbi Algorithm

2nd Place (Right)
Artist: Maria Camasmie
Title: Trellis

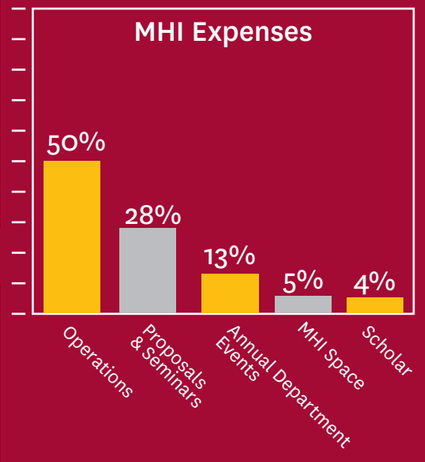


3rd Place
Artist: Moises Herrerabuitrago
Title: The Viterbi Algorithms: 50 Years Connection People



ABOUT THE MING HSIEH INSTITUTE

The Ming Hsieh Institute (MHI) is focused on enhancing academic and research programs within the Ming Hsieh Department of Electrical 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 engineering.



50% Operations
Supported faculty & staff payroll

28% Proposals & Seminars
Enabled leading researchers from around the world to visit, give talks, and work with faculty and students

13% Annual Department Events
Developed & organized by MHI to encourage collaboration between faculty, students, and alumni

5% MHI Space
Created an Undergraduate room for innovation and idea sharing. Continue to support meetings and visitor space

4% Scholar Program
Awards, travel funding, workshop and event support to MHI Ph.D. Scholars

MHI Leadership

Shri Narayanan, Director
Hossein Hashemi, Co-Director
Bhaskar Krishnamachari, Co-Director
Cathy Huang, Business Officer
Benjamin Paul, Communications Manager

2017-2018 Faculty Advisory Council

Salman Avestimehr
Rehan Kapadia
Mahta Moghaddam
Krishna Nayak
Antonio Ortega
Mike Chen
Mihailo Jovanovic

Ming Hsieh Institute, Department of Electrical Engineering
USC Viterbi School of Engineering
3740 McClintock Ave., EEB 131, Los Angeles, CA 90089
p: 213-740-2694 | e: info-mhi@ee.usc.edu
mhi.usc.edu

USC Viterbi
School of Engineering
Ming Hsieh Department of Electrical Engineering

Art work by Peter Lillian

ANNUAL REPORT
2017/2018

Ming Hsieh Institute

intelligent technologies to empower mankind

EVENTS

MHI Open House - Undergraduates
September 8, 2017

An Open House for all undergraduates that are new to EE. Students were able to interact with professors and upper classmen casually to ask questions. MHI also converted a visitor office into an undergrad study room to provide an area for undergrads to work on projects or brainstorm ideas.

New PhD Student Welcome Dinner
October 3, 2017

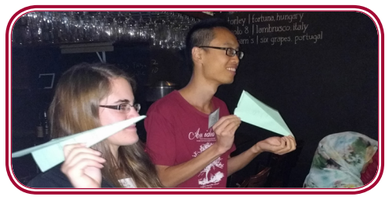
Annually hosted with EE Student Services. MHI Scholars met with new PhD students to provide mentorship, resources and fun. A total of 40 new PhDs participated.

Holiday Open House
December 20, 2017

A better way to end the year! Music, food, drinks, singing - with MHI Director, Shri as bartender!

Art Competition Show
September 13, 2017

To celebrate the 50th Anniversary of the Viterbi Algorithm, students submitted art work inspired by the Viterbi algorithm while fellow students voted for their favorite piece. A total of 14 pieces were submitted. The winning submissions are shown on the reversed side.



8th Annual EE Research Festival
November 10, 2017

MHI welcomed the entire USC Viterbi community, alumni and engineering industry representatives to the showcase of current student projects. Winners group photo with Dr. Hsieh, dept. chairs and MHI director.

EE PhD Commencement Luncheon
May 10, 2018

EE Ph.D. graduates from the class of 2018 were invited to celebrate their accomplishments. Advisors spoke about their students' time at the Ming Hsieh Department of EE. A total of 160 people (advisors, graduating students and their family attended)

SEMINARS

MHI CommNets and Systems 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.
2017-18 Number of speakers: 33
2017-18 Budget: $15,000

MHI Computer Engineering Research Seminar Series
This series offers an interdisciplinary perspective on the cutting-edge research and development in the computer engineering field. Computer engineering deals with the design, development, testing, and evaluation of componenets, systems, and networks.
2017-18 Number of speakers: 17
2017-18 Budget: $15,000

MHI Cyber-Physical Systems Seminar Series
The first edition of the Cyber-Physical Systems Seminar Series was especially active in 2017. 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 2018.
2017-18 Number of speakers: 30
2017-18 Budget: $18,000

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.
2017-18 Number of speakers: 9
2017-18 Budget: $8,100

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.
2017-18 Number of speakers: 6
2017-18 Budget: $13,000 (continuing to run on funds from 2015-16)

MHI Nano Materials and Devices Seminar Series
This series aims to expose students to cutting-edge research in the field of nanotechnology. In 2017-18, leaders in academia and industrial research institutes shared their most recent achievement in the diverse field of nanoscale materials, devices and systems.
2017-18 Number of speakers: 18
2017-18 Budget: $16,000

MHI Research and Technology Seminar Series
Developed in the Fall of 2016, this series focuses on inviting speakers from the industry to do technical sharing from the industry side. Speakers and EE students get to exchange ideas and brainstorm solutions. This year, Industry speakers are from The Boeing Company, AMD Research, Snap Inc., HP Lab, Creative Artist Agency, Gridspace, Capio Inc., and Canary Speech.

Dr. Andrew Viterbi, Prof. Mitra and Prof. Chugg at the Electrical Engineering Pioneer Series held on Sept 25, 2017

MHI Electrical Engineering Pioneer Seminar Series
The EE Pioneer Seminar Series focuses its attention on the stories and journeys of the many faculty who have been a crucial part of the growth and evolution of the EE Department over the last several decades. This year's EE Pioneer Series honored Dr. Andrew Viterbi, Professor Alexandar (Sandy) Sawchuk, and Professor Daniel Dapkus.

WORKSHOP, ACTIVITIES & VISITORS PROGRAM

Symposium on Blockchain (FAB 2018)
A full day international research symposium at the MHI/EE Seminar Space at USC, on the emerging hot topic of Blockchain. This is one of the first such broadly themed workshops. It included peer-reviewed and accepted papers from researchers at top institutions around the world. The event was open to the public and was attended by 110 participants including, EE faculty and students.

Student Activities
The Institute intends to focus on student creativity and innovation by encouraging and sponsoring student initiatives. Throughout 2017-2018, the Institute provided support to two undergraduate student clubs and collaborated on social events for PhD,
Undergraduate groups::
Makers: Maker's team project materials and Year End Showcase
IEEE: Hack IoT

Dr. Julia Hirschberg *Columbia University (PI: Shri Narayanan) Fall 2017* Dr. Hirschberg is the Chair of the Computer Science department at Columbia University. During her visit, she met with several faculty, had roundtable discussion with students, hosted a talk and participated in an event with students focused on diversity in engineering for women. Aside from her technical expertise, she also shared her vast experience in leadership and community building.

Dr. Hung-Wei Tseng *North Carolina State University (PI: Murali Annavaram) Fall 2017* Dr. Tseng is the assistant professor of the Dept. of Computer Science at North Carolina State University. Dr. Tseng worked closely with Prof. Annavaram and his team, leading to the publication of "Summarizer: Trading Communication with Computing Near Storage" in MICRO 2017. During his visit, several research projects were initiated that are currently in submission to top-tier conferences.