

# R'mani Haulcy

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## EDUCATION

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**Massachusetts Institute of Technology**      Master of Science (MS) and  
Doctor of Philosophy (PhD) in Electrical Engineering and  
Computer Science      June 2019  
June 2022

**Yale University**      Bachelor of Science in Electrical Engineering      May 2017

## RELEVANT COURSEWORK

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**Introduction to Numerical Simulation** – computational techniques, simulation of physical systems      Fall 2019

**Automatic Speech Recognition** – acoustic theory of speech production, machine learning for speech      Spring 2019

**Advances in Computer Vision** – machine learning, convolutional neural networks for vision      Fall 2018

## RESEARCH EXPERIENCE

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**Massachusetts Institute of Technology** – *Graduate Researcher*      Summer 2019 – Present

- Training machine learning models to predict whether a patient has a mental illness based on recordings of neuropsychological exams administered to patients by physicians
- Creating web interfaces for the neuropsychological exams that can be used to gather additional data for training and improving performance

**Massachusetts Institute of Technology** – *Graduate Researcher*      Fall 2017 – Spring 2019

- Developed a simulator in Java to explore the relationship between bilateral cruise control, safety and passenger comfort
- Performed statistical analysis on simulated data in MATLAB
- Explored the possibility of using time-to-contact as a proxy for accident probability

**NSF-Funded CAT Vehicle REU** – *Student Researcher, University of Arizona*      Summer 2016

- Collaborated with a partner to create a velocity-based, car-following controller in MATLAB and Simulink that dampened traffic waves in stop-and-go traffic situations
- Worked side by side with graduate researchers and faculty who are experts in cognitive radio and autonomous ground vehicles
- *Dissipation of stop-and-go waves via control of autonomous vehicles: Field Experiments* – Published in Transportation Research Part C: Emerging Technologies

## WORK EXPERIENCE

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**Fritz** – *Machine Learning Intern; Boston, MA*      Summer 2019

- Implemented and optimized state-of-the-art deep learning models for computer vision tasks for deployment on mobile devices
- Learned the latest techniques for optimizing models to run in real-time on mobile devices
- Gained hands on experience in one of the fastest growing areas of machine learning

**MIT Women's Technology Program** – *Computer Science Instructor; Boston, MA*      Summer 2018

- Taught a rigorous, fast-paced, hands-on computer science class in Python to 40 high school girls from around the country designed for students with no prior programming experience

- Designed my own curriculum and mentored underrepresented high school girls to enter engineering and computer science

**NextCapital – Product Design/Front Development Intern; Chicago, IL**

Summer 2017

- Understood the requirements for a given feature
- Specified use cases and test cases for its design
- Designed and developed high-level functionality
- Worked closely with developers and consulted on open questions

## **LEADERSHIP EXPERIENCE AND ACTIVITIES**

**Beautiful Patterns – Instructor; Monterrey, Mexico**

Summer 2018

- Facilitated a week-long, computational thinking workshop for 40 high school girls in Mexico
- Provided young women in the developing world with access to a computational thinking education and encouraged them to consider careers in computation
- Prepared lesson plans and presentations
- Taught HTML to Spanish-speaking students

**National Society of Black Engineers (NSBE) Board Member – Secretary, Yale**

September 2015 – May 2017

- Compiled pertinent information on the members, such as majors, gender, year, and interests
- Helped the group target the needs of the specific member base with more efficiency
- Tailored the logistics of the meetings and events to increase participation

## **HONORS**

**MathWorks Engineering Fellowship**

Awarded Fall 2020 – Spring 2021

- Received in recognition of an outstanding academic record, exceptional background, and promising future
- Awarded to graduate students that are active users of MathWorks software in the School of Engineering

**Frank Quick Fellowship**

Awarded Fall 2019

- Awarded to the strongest candidates with the most exemplary academic accomplishments

**Innovation Discovery Japan/ MIT MISTI Fellowship**

Awarded January 2018

- A highly selective, fully funded opportunity to explore cutting-edge technologies and businesses in Japan, including Toyota, Central Japan Railway and the Center for iPS Cell Research and Application (CiRA)

**MIT Presidential Graduate Fellowship**

Awarded in 2017-2018

- A prestigious program that recruits the most outstanding students worldwide to pursue graduate studies at the Institute and funds the tuition and living stipend of awardees for their first academic year at MIT

**Sloan Scholar, Alfred P. Sloan Foundation’s Minority PhD (MPHD) Program**

Awarded in 2017-2018

- A grant awarded to underrepresented minority doctoral students with the goal of increasing recruitment, retention and academic success

**Richard U. Light Fellowship/ Harvard Beijing Academy**

Awarded Summer 2014

- A highly selective, fully funded opportunity to pursue intensive language study in East Asia
- Lived in Beijing, China for 9 weeks studying Mandarin and signed a “No English” language pledge