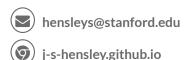
# Sarah Hensley





# Education

## MS | Electrical Engineering Stanford | 2018 - April 2020

- Research: Inference and Information
- GPA: 4.05 / 4.00

# MEng | Electrical Engineering & Computer Science

#### MIT | 2018

- Conc.: Artificial Intelligence
- GPA: 5.0/5.0

# **BS** | Electrical Engineering & Computer Science

#### MIT | 2017

- GPA: 4.8/5.0
- HKN (EECS Honor Society)

# Coursework

### **Graduate Courses**

Machine Learning Bayesian Inference Algorithms for Inference Graphical Models Reinforcement Learning Deep Generative Models Information Theory Inference and Info Theory Info Theory and Statistics Randomized Algorithms Convex Optimization

#### Math Background

Probabilistic Modeling Stochastic Processes Real Analysis Signals, Systems, and Inference Linear Algebra Differential Equations

# Skills

#### Languages

Experienced Python • MATLAB Familiar

R • C++ • Julia

#### General

MFX • Linux/UNIX • Git

# Experience

## Stanford University | Graduate Researcher

with Mert Pilanci | March 2019 - Present

- Simulated serial and parallelized approximate sorting networks in Python
- Identified connection between results and theoretical probabilistic underpinnings
- Drafted manuscript on application to improve speed of distributed computing

## MIT Institute for Medical Engineering and Science | Graduate Researcher Integrative Neuromonitoring and Critical Care Informatics Group | Sept. 2017 - June 2018

• Analyzed 2800 hours of vital sign data and 23,000 bedside alarms using Python

- Evaluated abnormal alarm data to develop false alarm prevention measures
- Authored thesis and presented poster at Medical Electronic Device Realization Center Workshop

## LeafLabs | Software Intern

June - August 2017

- Built new Python repository to reconstruct high-resolution 3D images from 2D microscope images
- Adapted deconvolution algorithms and optics equations to reconstruct images
- Improved computation speed by 30x using Cython and parallel processing

## MIT Computer Science & Artificial Intelligence Lab | Undergrad Researcher in Robot Locomotion Group | June 2016 - June 2017

- Simulated mathematical models for the arm of NASA's humanoid robot Valkyrie
- Proved that centralized optimal control improved performance by 40% over decentralized controllers for the arm
- Presented poster at EECScon undergraduate research conference
- Selected out of 150 students to present poster to industry and academia leaders
- Won Best Research Presentation out of 150 students

#### Jet Propulsion Laboratory | Research Intern

June - August 2015

- Designed experiments to induce mechanical resonance while imaging objects
- Analyzed radar results to identify the position and vibrational frequency of objects
- Demonstrated the presence of the Doppler effect through signal processing

# **Teaching**

# Grad Course Assistant | Stanford CS 2690: Intro to Optimization % September - December 2019

• Wrote and graded problems for graduate class on optimization theory

# Grad Teaching Assistant | MIT 6.008: Intro to Inference %

August - December 2018

- Created exam questions on inference algorithms and graphical models
- Taught problem-solving skills in bi-weekly recitations to 25-student sections
- Coordinated time-sensitive administrivia, like scheduling office hours every week