Sarah Hensley

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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
LaTeX • 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 269O: 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