

# Eyassu Shimelis

340 E. Foothill Blvd. Claremont, CA | eshimelis@hmc.edu | 720.984.3899

## EDUCATION

### HARVEY MUDD COLLEGE

BACHELOR OF SCIENCE,  
ENGINEERING

May 2018 | Claremont, CA

## RELEVANT COURSEWORK

Autonomous Robot Navigation  
Artificial Intelligence  
Communication and Info. Theory  
Data Structures and Program Dev.  
Microprocessor Sys: Design & App.  
Advanced Systems Engineering  
Elec. & Mag. Circuits  
Digital Elec. and Comp. Engineering  
Eng. Design and Manufacturing  
Materials Engineering  
Multivariable Calculus  
Differential Eqns. and Lin. Al.

## SKILLS

### LANGUAGES

Python • MATLAB • C/C# • C++ • Java  
• SystemVerilog • Arduino •  
Javascript • HTML/CSS • Racket •  
LabView • Prolog

### TECHNICAL

Github • SolidWorks •  $\LaTeX$  •  
Machining • CAD • 3D Printing • PCB  
Design • FPGA

## AWARDS & HONORS

2018	Eng. Departmental Honors
2016-18	Laspa Fellow (Autonomous Sys.)
2017	Ford Men of Courage Fund
2016	HMC Davies Eng. Prize

## LINKS

Website: [eyassu.com](http://eyassu.com)  
LinkedIn: [eshimelis](#)  
Research: [LAIR Homepage](#)

## SOCIETIES

2012-14	National Honor Society
2010-14	French Honor Society

## RECREATIONAL ACTIVITIES

Running • Photography • Rock  
Climbing

## RESEARCH

### MIT LINCOLN LABORATORY | SUMMER RESEARCH PROGRAM INTERN

Start Date: May 2018 | Lexington, MA | Dr. Bryan Teague  
Upcoming research in cooperative network localization and navigation

### LAIR | LAB FOR AUTONOMOUS AND INTELLIGENT ROBOTICS

Sep 2016 – Present | Claremont, CA | Dr. Christopher Clark  
Multi-AUV Stochastic Modeling and Control for Shark Tracking

- Simulated multiple control-based trackers in MATLAB, later implemented in C#
- Analyzed multiple graph-based multi-AUV planning methods in MATLAB
- Designed waterproof housings for external hydrophone amplification boards

## PROJECT EXPERIENCE

### AUTONOMOUS ROBOT NAVIGATION | ENG160

Jan 2018 – Present | Claremont, CA  
Technical elective course in autonomous robotics

- Characterized odometry and developed a point tracking controller
- Designed and implemented an online particle filter
- Final Project: Localized using an online Unscented Kalman Filter (UKF)

### SYSTRON DONNER INERTIAL | CLINIC PROJECT

Aug 2017 – Present | Claremont, CA | Dr. Anthony Bright  
Embedded Neural Networks for Improved Inertial Sensor Calibration

- Ported SDI calibration algorithms into MATLAB
- Researched data mining techniques for sensor calibration and error compensation, due to highly nonlinear effects
- Identified candidate variables and implemented an Artificial Neural Network for further error compensation

### AMAZON LAB126 | CLINIC PROJECT

Jan 2017 – May 2017 | Claremont, CA | Dr. Timothy Tsai  
Configurable Microphone Array Harness

- Developed a high-channel, high-bandwidth audio harness for automated testing of Alexa devices
- Wrote a scriptable Python audio library to handle up to 32 channels of audio throughput

## EXTRACURRICULAR ACTIVITIES

### ACADEMIC EXCELLENCE TUTOR | ENGINEERING AE

August 2016 – Present | Claremont, CA

- Hold exam reviews and weekly tutoring sessions for a course of 240 students
- Work closely with Professors to provide student feedback on course materials

2017-Pres.	Peer Academic Liason	Academic assistance to first year students
2016-Pres.	MuddHacks Organizer	Harvey Mudd hardware hackathon
2016-17	South Dorm Mentor	HMC Dean of Student Affairs, Asst. RA
2014-17	Homework Hotline Mentor	Free, over-the-phone tutoring
2014-17	VP of Science Bus	Science lessons for local elementary students
2015	HMC Combat Robotics	Drive-train team
2014-15	Mudd Investment Fund	Finance/Investment Club