

# Eyassu Shimelis

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## EDUCATION

### HARVEY MUDD COLLEGE

B.S., 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 • C++ • C# • MATLAB • Java  
• SystemVerilog • Arduino(C) •  
Javascript • HTML/CSS • Racket •  
LabView • Prolog

### TECHNICAL

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

## LINKS

Website: [eyassu.com](http://eyassu.com)

LinkedIn: [eshimelis](#)

Research: [LAIR Homepage](#)

## AWARDS & HONORS

2017 Ford Men of Courage Fund  
2016 HMC Davies Engineering Prize

## SOCIETIES

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

## CONTACT

340 E. Foothill Blvd  
Claremont CA, 91711

## RECREATIONAL ACTIVITIES

Running • Photography • Rock  
Climbing

## RESEARCH

### 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

### MIT LINCOLN LABORATORY | SUMMER RESEARCH PROGRAM INTERN

May 2018 – Aug 2018 | Lexington, MA | Dr. Bryan Teague

Upcoming research in cooperative network localization and navigation

## PROJECT EXPERIENCE

### SYSTRON DONNER INERTIAL | CLINIC PROJECT

Aug 2017 – Present | Claremont, CA | Dr. Anthony Bright

Embedded Neural Networks for Improved Inertial Sensor Calibration

- Porting current calibration algorithm into MATLAB
- Researching data mining techniques for sensor calibration and error compensation, due to highly nonlinear effects
- Project Goal: Reducing gyroscope bias by an order of magnitude

### AUTONOMOUS ROBOT NAVIGATION | ENG160

Jan 2018 – Present | Claremont, CA

Technical elective course in autonomous robotics

- Characterized differential-drive odometry and developed a point tracker
- Designed and implemented an online particle filter
- Final Project (Upcoming): Localization using an Unscented Kalman Filter (UKF)

### 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