Eyassu Shimelis

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Cambridge, MA

SUMMARY

Robotics Software Engineer with 3.5 years of professional experience developing software for distributed sensing and control in multi-agent systems.

WORK & RESEARCH EXPERIENCE

Boston Dynamics ⌐   Oct 2021 - Present
Software Engineer   *Waltham, MA*
- Develop perception and localization software for Stretch, in the Warehouse Robotics group.

MIT Lincoln Laboratory ⌐   May 2018 - Oct 2021
Software Engineer in the Advanced Concepts and Technologies Group   *Lexington, MA*
- Researched and implemented performant algorithms for real-time, distributed inference on low-cost sensors and computing devices, using the Julia programming language
- Developed a software library, using Julia, for recursive Bayesian inference, with support for linear and nonlinear models using Kalman, Extended Kalman, and Unscented Kalman filters
- Created a language-agnostic pub/sub messaging system for real-time data routing, using Google Protobuf and ZeroMQ

Lab for Autonomous and Intelligent Robotics (LAIR) ⌐   Sep 2017 - May 2018
Undergraduate Research Assistant   *Claremont, CA*
- Developed methods to autonomously track sharks with multiple underwater vehicles (AUVs)
- Simulated and tested control-based trackers in MATLAB, later re-written in C#, and validated in hardware
- Wrote an AUV simulation library in MATLAB to test graph-based planning methods for multi-agent coordination

SKILLS

Programming: C++, Julia, Python, MATLAB, C, HTML/CSS, JavaScript
Technical: Linux, Git, ROS, LaTeX, Machining, CAD, 3D Printing, Soldering, Electronic Lab Equipment, FPGA
Recreational Activities: Running, Rock Climbing, Sailing, Photography, Cooking

EDUCATION

Harvey Mudd College   Aug 2014 - May 2018
B.S. in Engineering, Departmental Honors   *Claremont, CA*
Relevant Coursework: Autonomous Robot Navigation, Artificial Intelligence, Data Structures & Program Development, Communications & Information Theory

Massachusetts Institute of Technology   Feb 2020 - May 2020
Advanced Studies Program, Non-Degree   *Cambridge, MA*
Graduate Coursework: 16.32 - Principles of Optimal Control & Estimation

LEADERSHIP & TEACHING EXPERIENCE

MIT Beaver Works ⌐   Mar 2019 - Aug 2020
RACECAR Course Instructor & Outreach Coordinator   *Cambridge, MA*
- Lead a four-week summer course for 50+ high school students interested in vehicle autonomy, $200K budget
- Developed lectures and labs for the MIT RACECAR ⌐ platform: a research-grade, tenth-scale autonomous vehicle

MIT Course 16.633   Aug 2019 - Dec 2019
Co-instructor, Autonomous Machines Seminar   *Cambridge, MA*
- Instructed a 20-person junior robotics course, led by Professors Sertac Karaman and Jonathan How (AeroAstro)
- Developed and taught weekly lectures & labs, focused on understanding the principles of autonomous vehicles and applications of imitation learning

LINKS

Website: **eyassu.com** ⌐ | LinkedIn: **eshimelis** ⌐ | Undergraduate Research: **LAIR Homepage** ⌐