Helena Teixeira-Dasilva

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Education

University of Southern California Aug 2024 - May 2026
Masters of Science in Aerospace and Mechanical Engineering - AI and Machine Learning *GPA: 3.94*
Involvement: *GEM Fellowship, Varsity Cross Country and Track, LA Public Schools Tutor*
Courses: *Robotic Dynamics and Control, Mathematical Methods in Deep Learning, Computer Control of Mechanical Systems, Linear Controls II, Robotic Autonomy in Extreme Environments*

Washington University in St. Louis Aug 2020 - May 2024
Bachelor of Science in Mechanical Engineering, Second Major Computer Science *GPA: 3.93*
Honors: *Engineering Dean's List (All Semesters); Academic All-American (FL2022, SP2023); President's Council Scholar-Athlete Team Selection*
Involvement: *Varsity Cross Country and Track, BearCubs club - running coach for children with autism, Heat Transfer TA*

Experience

Lawrence Livermore National Laboratory Livermore, CA
Autonomous Systems Engineering Intern *June 2024 - Aug 2024; May 2025 - present*

- Designed and flight-tested UAV autonomy including precision landing, vision-based collision avoidance, and real-time UAV-boundary intersection prediction using Python, MAVLink, and ArduPilot.
- Integrated visual SLAM, trajectory planning, and offboard control into a unified autonomous flight stack.
- Built a tele-operated UGV system with Arduino-based dual-motor control; delivered a functional test-bench prototype in 2 weeks.
- Selected as a top 10 finalist in a lab-wide research symposium among all engineering interns.

Robot Locomotion And Navigation Dynamics Laboratory Los Angeles, CA
Robotics Engineer *Aug 2024 - present*

- Developed a ZMP-based quadruped crawling gait for locomotion while estimating ground stiffness.
- Built a human–robot teaming web platform integrating researcher input with Monte Carlo Tree Search for autonomous path planning and field data collection.

WingXpand™ St. Louis, MO
Robotics Software Engineer Intern (Part-Time) *Sept 2023 - Dec 2023*

- Led simulation efforts and contributed to object detection and hardware testing for an early-stage UAV start-up.

MIT Lincoln Laboratory Lexington, MA
Safe Autonomy Research Intern - Integrated Missile Defense Technology *May 2023 - Aug 2023*

- Led full-cycle development of an autonomous UAV landing system using PX4 firmware; achieved successful hardware validation within 6 weeks.
- Developed object-oriented software in Python for simple 3D and software-in-the-loop simulations.
- Co-led a team project pitching a UUV efficiency-enhancing payload to lab leadership.

Enterprise Holdings Inc. St. Louis, MO
Software Engineering Intern *May 2022 - Aug 2022*

- Developed full-stack features for vehicle management applications using Java, JavaScript, HTML/CSS, and SQL.
- Designed RESTful APIs and optimized Oracle database workflows.

Skills Summary

Languages	Python, C/C++, Java, MATLAB, SQL, JavaScript, HTML/CSS
Robotics & Tools	ROS, ROS2, ArduPilot, PX4, Gazebo, Simulink, OpenCV, MAVLink, Arduino
Dev & Platforms	GIT, Jira, Confluence, SolidWorks, Linux, Windows, LaTeX
Soft Skills	Leadership, Communication, Problem Solving, Time Management

References available upon request.