JUAN SALAZAR

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Education

Massachusetts Institute of Technology (MIT), Cambridge, MA
M. Eng in Electrical Engineering and Computer Science | GPA: 4.4 *May 2022*
B.S. in Aerospace Eng. (Conc. in Autonomous Systems) & Electrical Eng. | GPA: 4.4 *June 2020*
Underactuated Robotics · Manipulation · Control · Space Systems Engineering

Research & Work Experience

ARES Corporation (NASA Johnson Space Center), Houston, TX *January 2023 - Present*
Systems Engineer/ISS Robotics Analyst

- Design ISS robotic arm trajectories to assess kinematic feasibility of planned operations
- Present results at engineering review and ISS program management boards
- Develop applications to automate workflow and extend analysis software functionality in Python

Distributed Robotics Laboratory (CSAIL), Cambridge, MA *July 2018 - May 2022*
Undergraduate/Graduate Research Assistant

- Developed autonomous coordination for soft robotic fish that led to publication
- Contributed to development of visual tracking algorithm using OpenCV and ROS
- Developed tools for computational design and control of underwater vehicles using Python

Leadership

NASA BIG Idea Challenge (Extreme Terrain Mobility) *November 2021 - June 2022*
Software & Autonomy Lead

- Led a team of 5 to develop simulation for finalist lunar robot in 2022 BIG Idea Challenge
- Developed physics-based hexapod walking simulator using ROS, Python, and Gazebo to support real design trade studies
- Formulated software architecture and walking capability system requirements

MIT Rocket Team *August 2018 - July 2019*
Payload Team Lead, Outreach Chair

- Led development of sensor payload for sounding rocket launched to ~10,000 ft
- Developed microcontroller firmware for onboard sensor operations and data storage in C

Publications

Juan Salazar, Levi Cai, Braden Cook, Daniela Rus. “Multi-Robot Visual Control of Autonomous Soft Robotic Fish.” Accepted, IEEE OES AUV Symposium, 2022.

Skills & Awards

Software: Python, C/C++, Git, Gazebo, ROS, Linux, MATLAB
Hardware: 3D Printers, Microcontrollers, Circuits & Electronics
Languages: French (fluent), Spanish (fluent)
Awards: 1st Place Team, 2018 Unified Engineering Flight Competition