

# Yashas Salankimatt

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## Education

2019-2022

### Texas A&M University- College Station

GPA: 3.74

Bachelor of Science, Computer Engineering (Magna Cum Laude)

## Work Experience

### Robotics Research Intern at Carnegie Mellon University, Biorobotics Lab

June 2022 - Current

- Working on a hardware in loop (HIL) test stand for simulation of satellite docking systems
- Iterating on a bimanual test stand used to simulate spacecraft docking hardware for Northrop Grumman
- Implementing impedance matching algorithms on the HIL test stand for space physics simulation
- Improving the controllers, estimators, trajectory planning, and optimization systems for satellite docking

### Software Engineer Intern at Troverlo

Jan 2022 - May 2022

- Programmed software to automate sensor tags configuration for production environments
- Developed methods to speed up sensor tag fabrication during prototype phases
- Fabricated prototype sensor tags and running test suite for proper operation before field testing

### Undergraduate Researcher with Dr. Robin Murphy

Aug 2021 - May 2022

- Developed the next version of the Survivor Buddy robot for disaster relief, telepresence, telemedicine
- Modeled, fabricated, and assembled the mechanical assembly for the inexpensive robot system
- Designed and fabricated a custom PCB, wrote face tracking and pose matching code using OpenCV

### Honors Undergraduate Research Thesis with Mr. Stavros Kalafatis

Aug 2021 - May 2022

- Programmed model to update indoor maps with new data on changes to environments
- Implementing the map revision system on a physical robot with LIDAR and an RGB-D camera
- Validated and tested above system, compared to other implementations, and wrote a thesis on my work

### Engineering Incubator Founder

Dec 2019 - Dec 2021

- Founder in the engineering-based business incubator at A&M working on my own startup
- Developed an inexpensive robotic arm to automate part inspection for job shops
- Conducted market analyses, customer interviews, and analyzed business feasibility

## Leadership

### TAMUhack, Hardware and Logistics Director

Mar 2020 - May 2022

- Recruiting sponsorships and maintaining sponsor relations for our hackathons
- Organizing logistics including prizes, venue, food, live streaming, scheduling, etc.

## Awards

April 2022

- Texas A&M Undergraduate Research Scholar

Mar 2021

- RowdyHacks 2021 Best Hardware Hack Winner

Feb 2020

- TAMUmake 2020 1<sup>st</sup> place & Accessibility Challenge Winner

Sep 2019

- Kurt Giessler Youth Achievement Ambition Grant Recipient

Jan 2019

- Brockman Scholarship Recipient (Full ride and cost of attendance scholarship)

## Projects

### Creating a Custom 7-Axis Robot Arm

April 2022

- Developed a 7-axis robot arm with a payload of 3kg, 800mm reach, and sub-mm repeatability for <\$750
- Modeled and fabricated actuators, electrical system, firmware, sensor systems, and manipulator
- Created ROS interface and simulated arm for rapid iteration and ML training in simulation

### Teddy, automated scheduling/planning for students

Aug 2021

- Developed a system to help students manage their work and classes by performing automated task planning, fitting around their existing calendars
- Implemented using React, React Native, Firebase, GCal API, Bootstrap

### Creating a Custom, Inexpensive, Heavy Duty CNC Router

Dec 2020

- Designed and built a CNC router for \$500 with the specs of \$2K hobbyist machines
- Wrote a custom C firmware branching off of GRBL for smart control of the machine

## Skills

Software Engineering

CE/MechE, Robotics

- C++, Javascript, Python, Java, HTML/CSS, Typescript, React.js, React Native, Tailwind, Firebase
- ROS, CAD Modeling, Finite Element Analysis, CNC Machining, Mapping and Localization Systems, TensorFlow, Microcontroller Design, Integrated and General Circuit Design