Mahesh Saboo

mssaboo@stanford.edu | mssaboo | Stanford, CA

EDUCATION

Stanford University Sep. 2021 – Mar 2023

Master of Science in Mechanical Engineering (Robotics, Mechatronics) – GPA: 4.01/4.0 Stanford, USA

- Coursework: Mechatronics (ME218 A/B/C), Collaborative Robotics, Principles of Robot Autonomy, Computer Vision

Indian Institute of Technology Kanpur July 2016 – June 2020

Bachelor of Technolgy in Mechanical Engineering – GPA: 8.6/10 Kanpur, India

- Coursework: Data Structures and Algorithm, Machine Learning, Mechatronics

EXPERIENCE

Firmware Engineering Intern - Telsa Inc Jun 2022 – Sept 2022

Team: Industrial Energy Firmware Palo Alto, USA

- Developed firmware to improve existing and implement new functionalities for thermal subsystem of energy products
- Performed tests and analysed signals to ensure the stability of the new features and regression tests to ensure the backward compatibility
- Conceptualized and developed a GUI tool to simplify the workflow of controlling the ECUs across Tesla Energy
- Tools used: C, C++, Python, JavaScript, Bootstrap, Git, Azure, Electronics and Hardware

Smart Product Design - ME218 A/B/C Sept 2021 – June 2022

- Completed an year long mechatronics course series at Stanford and gained understanding of concepts like registers, interrupts, timers, communication protocols, state machines, sensors, etc in the context of embedded systems
- Prototyped multiple games and robots - *No Time to Fly, Upchuck, Nessie - Tug Boat*

Software Engineer - Bajaj Finserv Limited July 2020 – June 2021

Team: Mobile Application Development Pune, India

- Managed front-end and its integration with back-end for multiple segments of company's android application
- Coordinated with internal teams and external partners to develop solutions for requirements within organization

Soft Computing Lab May 2019 – July 2019

Project: Gait Event Detection IIT Kharagpur, India

- Designed a wearable device and devised an algorithm to detect gait events on different terrains using data from IMUs
- Algorithm has the potential to act as a high level controller for powered prosthetic and assistive devices

SKILLS

Languages : C, C++, Python, MATLAB, Javascript

Tools : ROS, Arduino, Raspberry Pi, Solidworks, ANSYS, OpenCV, Scikit-Learn, Numpy, Pandas, Git, Bootstrap

Hardware : LIDAR, Camera, IMU, PIC Microcontroller, Proximity Sensors, Encoders

Communication Protocols : I2C, SPI, UART, CAN

PROJECTS

Delivery Robot : Implemented path planning, control and computer vision algorithms on a TurtleBot using ROS for navigation in a mock environment

Recipe from Image : Designed a mask RCNN based neural network to recommend food recipes from edible items in the image

Collabortive Robotics : Implemented algorithms for LocoBot to perform collaborative tasks with other LocoBots in an unknown environment

PUBLICATIONS

• S. Sahoo, M. Saboo, D. K. Pratihar and S. Mukhopadhyay, "Real-Time Detection of Actual and Early Gait Events During Level-Ground and Ramp Walking," in IEEE Sensors Journal, 15 July, 2020

AWARDS AND ACHIEVEMENTS

• Academic Excellence Award at IIT Kanpur (2018-2019), awarded to Top 10% students

• National Talent Search and Kishore Balvaidyanik Protsahan Yojana scholarships by Govt of India