Mahesh Saboo

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EDUCATION

Stanford University Sep. 2021 – March 2023

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

- Coursework: Collaborative Robotics, Principles of Robot Autonomy, Mechatronics, 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 for thermal subsystem for the energy products and performed rigorous testing on system
- Conceptualized and developed a GUI tool to simplify the workflow of controlling the ECUs across Tesla Energy

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

Research Intern - Soft Computing Lab, Prof. D K Pratihar 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

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

PROJECTS

Recipe from Image - CS231N

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

Mechatronics - ME218 A/B/C

- Conceptualized and developed multiple games and robots as a part of year long mechatronics course at Stanford

Collabortive Robotics - ME326

- Implemented algorithms for locobot to perform collaborative tasks with other locobots in unknown environment

Delivery Robot

- Implemented autonomous exploration, A-Star, TSP, gmapping SLAM on a Turtlebot using ROS for navigation in a mock environment.

Depth Map from Stereo Vision

- Developed a ROS compatible implementation of Kanade's stereo matching algorithm as a solution to assign window size for block matching in stereo vision using SSD

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