RAMPRAKASH SRIDHARAN

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EDUCATION

* **Robotics and Autonomous systems (Systems Engineering)(MS) Aug 2022 – Aug 2024 (Expected)**

Arizona State University, Mesa, Arizona | **GPA : 4.00/4.00**

* **Robotics and Automation (BE) Aug 2018 – May 2022**

PSG College of Technology, TamilNadu, India | **CGPA : 9.1 / 10.0**

SKILLS

* **Hardware**– Arduino, Raspberry pi, ESP8266 Node MCU, SIEMANS S7–1200 PLC.
* **Programming**– C, CPP, Python, Matlab, ROS/ROS2, Simulink
* **CAD Designing**– Autodesk Fusion 360 and Solid Works
* **Circuit and PCB Designing** – Proteus, EasyEDA
* **Frameworks** – Keras, Tensorflow, Numpy, Pandas, Matplotlib, Kivy, OpenCV
* **Other Softwares** – FESTO FluidSim, SIEMANS TIA Portal

CERTIFICATIONS

* Complete Tensorflow 2 and Keras Deep learning Bootcamp
* ROS for Beginners: Basics, Motion and OpenCV
* Matlab Onramp
* Simulink Onramp

PROFESSIONAL EXPERIENCE

* **Barrow Neurological Institute | Student Project | Phoenix, Arizona Jan 2023 – Present**

🡪 Collaborating with Barrow Neurological Institute (BNU/ASU Collaboration) to design and develop a Mechatronic device with Bio feedback device to help the patients with Parkinson’s in adjusting their vocal intensity and loudness.

🡪 Aiding a six member team to develop a vibrotactile feedback system in the form of a band in combination with a microphone for audio input.

* **LAPP India private limited | Student Intern | Bangalore, Karnataka, India Feb 2022 – May 2022**

🡪 Collaborated with the company on the design of a robot to traverse cables laid on overhead trays and detect faulty cables with a thermal camera.

🡪 The prototype was developed and tested on cable trays; achieved good navigation in trays and a fault detection accuracy of 80 percent.

PROJECTS

* **Webcam controlled Rover Nov 2022 – Dec 2022**

🡪 Helped a four member team in programming and deploying a Rover which moves in a rectangular arena.

🡪 The rover gets feedback from a webcam that is placed facing down, covering the entire arena.

🡪 Applied forward and inverse kinematics, given a goal position, the rover uses the camera's feedback to navigate to the desired location and vice versa.

* **Drawing Robot Oct 2022 – Dec 2022**

🡪 Assisted a team in building and programming a robot that uses pulleys and strings to make drawings on a white board.

🡪 The robot connected to a PC running Matlab program and is deployed on a vertical white board

🡪 Integrated the matlab program which preprocesses the image with the microcontroller and command the robot to draw the image on the whiteboard

* **Self Balancing Motorcycle Sep 2022 – Oct 2022**

🡪 Aided a team of four members in assembling and programming a PID controller for a self balancing motorcycle that use inertial wheels to balance itself on a surface.

🡪 Successfully implemented the motorcycle with a PID controller by understanding the idea behind balancing and tuning the PID parameters.

* **Anomalous Human Activity Detection Using Stick Figure and Deep Learning Model Aug 2021 – Dec 2021**

🡪 Worked with a two person team to develop a deep learning model to detect anomalous human activity using stick figure of a human.

🡪 Developed and trained a deep learning model (Classification) to take in the key points from the stick figure as input and output one of four poses; Normal, Squat, Crawl and Climb.

🡪 Deployed the deep learning model in a Raspberry pi interfaced with a Logitech webcam to obtain live camera feed and the pose classification.

* **CNC Sketching Machine Aug 2020 – Dec 2020**

🡪 Helped design a sketching machine that takes in G codes generated from an image and sketch them on a paper.

🡪 Processed the input image to obtain G codes, the G codes are fed to the controller for actuating the motor and sketching the image.