Sai Srinivas Tatwik Meesala

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Summary

Passionate Roboticist with expertise in embedded systems, perception, industrial automation, autonomous vehicles, & aerial robotics. Demonstrated leadership in engineering projects, excelling in documentation, CAD design, embedded components, digital twin, & programming. Inspired to reach the pinnacle in robotics with a meticulous and determined approach to tasks.

Experience

Marinella Research – Chandler, Arizona

Robotics Researcher **May 2024 – Dec 2024**

- Lead multidisciplinary research projects in robotics, industrial automation, digital twins, and system engineering.
- Conduct feasibility studies and engineering consulting for industrial applications.
- Develop innovative solutions for commercial viability, emphasizing grant proposals and internal projects.
- Contribute to continuous improvement and technological advancement aligned with organizational goals.

Arizona State University – Tempe/Mesa, Arizona

Robotics & Applied Linear Algebra Teaching Assistant **Jan 2023 – May 2024**

- Instructed robotic systems design, covering kinematics, dynamics, modeling, and control.
- Assisted in graduate-level linear algebra for engineering.

Thermo-Fluids Grader **Jul 2023 – Aug 2023**

- Provided instructional support in Engineering Thermo-Fluids and grading.

Naval Science & Technological Laboratory (NSTL) – Visakhapatnam, Andhra Pradesh

Robotics Intern **May 2022 – Aug 2022**

- Developed Object Detection (YOLOv5) Robot with GPS navigation with vision-based collision avoidance.
- Worked on Python programable NVIDIA Jetson Nano JetBot.

Audi India – Visakhapatnam, Andhra Pradesh

Mechanical Technician · Internship **Mar 2017 – May 2017**

- Diagnosed and fixed issues with mechanical components in Audi cars.
- Assembled and disassembled complex parts for repairs and troubleshoot malfunctions.

Education

Arizona State University – Mesa/Tempe, Arizona GPA: **4.25**

Doctor of Philosophy - PhD, Robotics and Autonomous Systems Jan 2025 – Present

Master of Science in Engineering in Robotics and Autonomous Systems Aug 2022 – May 2024

Bachelor of Science in Engineering in Robotics Aug 2019 – May 2023

Projects

Robotics Dynamics and Force Control Package **April 2024**

Developed a robotics package integrating manipulator dynamics, force control, and GUI.

VCO2 VO2 Metabolic Monitor **Jan 2024 – April 2024**

Designed and implemented a VCO2 and VO2 metabolic monitor, integrating CAD design, coding, and MATLAB interface with Bluetooth (BLE) connectivity for real-time data collection.

Mechatronics Device: Portable/Lightweight Gait Analysis **Jan 2023 – May 2023**

Developed compact and portable footwear for gait analysis to improve gait balance for patients at the Barrow Institute.

Semi-Autonomous Twin Hoist System **Aug 2023 – May 2023**

Designed two independent hoists to pick up and change copper rolls (700lbs) used for PCB manufacturing.

Wearable Robotics with Embedded System Control **Jan 2022 – Apr 2022**

Developed an Embedded System that uses data collected from sensors to control the actuators with wireless Wi-Fi control to help stroke patients.

Industrial Workstation with Programmable Logic Controller **Jan 2022 – Apr 2022**

Worked on a Rockwell PLC with industrial sensing technology, and industrial actuators, and developed Supervisory Control and Data Acquisition (SCADA) for the Human-Machine Interface (Machine: SMC HAS 200).

3DoF Robot Arm **Aug 2021 – Dec 2021**

Designed a Bluetooth Robot Arm with an inbuilt Forward/Inverse Kinematics calculator to reach the target location.

Interactive Decoration/Animatronics with Embedded System Control **Aug 2021 – Dec 2021**

Developed a Halloween decoration using embedded systems. In-depth research was done to design a functioning Printed Circuit Board.

Skills

CAD Designing, Embedded Systems, Python, C, MATLAB, ROS, Linux, PLC Programming, Digital Twins, Aerial Robotics.