Lokesh Sriram

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Aspiring to contribute to the robotics and machine learning industry
Seeking a summer 2025 internship/full time opportunity in the same

EDUCATION

Purdue University, West Lafayette, IN **May 2025**
Bachelor of Science in **Mechanical Engineering** **Cumulative GPA: 4.0**
Minor in **Mathematics**
Honors/Certificates: ASHRAE Scholar, John Martin's Entrepreneurial Centre (JMEC) scholarship, H. William Bottomley scholarship, Ralph.T.Simon scholarship, Larry R Woodling scholarship, Dean's List, Semester Honors

SKILLS

Python, Pytorch, OpenCV, NumPy, VICON, D-Flow, ROS2, C++, JAVA, MySQL, SolidWorks, Siemens NX, Fusion 360, MATLAB, LabVIEW, STAR-CCM, Modellica, Dymola, Machine Edition, FL Studio 21, Ableton Live 12

WORK EXPERIENCE

Robot Control Systems Undergraduate Research Assistant – TRACE Labs, Indiana **June 2024 - Present**

- Implemented 16 camera VICON Mo-Cap System to capture Digit Robot's motion profiles
- Developed D-Flow algorithms for dynamic treadmill motion simulation
- Built Extended Kalman Filter (EKF) sensor fusion in MATLAB for position and orientation tracking
- Customized Tight Learned Inertial Odometry Model (TLIO) and data loader using Pytorch on UNIX system to accurately estimate current pose using only IMU
- Mitigated IMU drift of current position estimate by ~40 cm/minute in all directions using the TLIO and EKF in comparison to traditional filter methods

Control Systems Undergraduate Research Assistant – Ray W. Herrick Laboratories, Indiana **Aug 2024**

- Developed optimization algorithm for battery, solar power, and grid power management to maintain 380V DC bus
- Deployed Emerson PLC for DC Nanogrid Controls with Machine Edition with Modbus communication
- Published paper on DC PoE (Power over Ethernet) Lighting system to be published in International High Performance Building Conference (2024)
- Implemented PoE DC lighting system that consumes 20% less power than Alternating Current (AC) lighting
- Established Serial communication in R-Pi using C++ and Python to create a current data acquisition system
- Designed IoT enabled power-sensing system which costs 500$ less than current technologies (TED Spyder)
- Manufactured 4 Printed Circuit Boards (PCB) to improve safety of direct current distribution panel

Research and Development (R&D) Engineer – Wilsonart, Texas **Aug 2023**

- Modelled thickness of High-Pressure Laminate (HPL) as a function of layers and pressure using MATLAB and Visual Basic, leading to annual savings of $ 345,000 due to reduced material usage and maintenance.
- Determined Scope 1 and Scope 2 Carbon and Biogenic emissions for over 77 locations using Smartsheet
- Constructed an automated Project Management Office (PMO) using Smartsheet which tracks over 350 employees

Lead Programmer for Warehouse System – Karadi Path, India **Feb 2021**

- Coded a software to facilitate data collection, data analysis, and automated report generation for over 72 titles
- Developed GUI and backend using MySQL, JAVA, and JDBC, increasing report generation rate by 60%
- Documented criteria, design plan, development of code, and evaluated final product with feedback from client

PROJECTS/CLUBS

Passion Project – Minutes **Spring 2024 - Present**

- Programming a Siamese Neural Network for facial verification software using Numpy, OpenCV, and Pytorch
- Implementing IoT enabled microcontrollers (ESP32/R-Pi) to create a facial verification activated door lock
- Developing Small Language Model (SLM) using Python for the purpose of lab report generation / scientific chatbot.

Aerodynamic Design- Formula Society of Automotive Engineers – West Lafayette, Indiana **Spring 2023**

- Created Computational Flow Diagrams (CFD) in STAR-CCM+ and reduced drag of 4 elements by 6%
- Assembled 4 wing elements and undertray using NX, Fusion 360 Computer Aided Manufacturing (CAM)
- Operated HAAS gantry sheet to mill 4 wing elements to be used in Purdue Formula 23 SAE Michigan Races

Startup Pitch Competition – ParkVue **Spring 2023**

- Developed a product as a team of 4 that would use IoT enabled cameras to facilitate real-time parking management
- Participated in the John Martin's Entrepreneurial Centre (JMEC) Startup Incubator competition and won $ 10,000

INTERESTS: Boxing, Music Production, Singing, Playing the Piano, and Sketching/Drawing