VAMSHI NARAYANA BABU

📞 (623) 299-0980 ✉️ vamshin24@asu.edu in https://linkedin.com/in/vamshin24/ ⬡ https://github.com/vamshin24

Education

Arizona State University   **Expected Graduation: May 2026**
Master's in Robotics and Autonomous Systems, GPA:3.67/4.0   AZ, USA
- Courses: Python, Mechatronics, Kinematics and dynamics, Robotics -2 (UAV).

National Institute of Technology Karnataka   **May 2022**
Bachelor's, Electronics and Communication Engineering   KA, India
- Courses: Control systems, Microprocessors, Image and Video Processing, Internet of Things, C/C++.

Technical Skills

Languages: Java, Python, C++, C, SQL, MATLAB, PLC Programming.
Robotics and Simulation: ROS/ROS2, Gazebo, MuJoCo, Sensor Fusion, SLAM, OpenCV, OCR, Pytorch, Pydobot.
Developer Tools: Linux, Github, Postman, Dbeaver, AWS, Azure, Docker, Kubernetes, Maven, Simulink.
Libraries/Frameworks: REST APIs, Springboot, NodeJs, Redis, Kafka, RabbitMQ, MSSQL, Django, Tensorflow.

Work Experience

Addverb Technologies Ltd.   **Aug 2022 – Aug 2023**
Graduate Engineer Trainee - Robotics Software Engineer   Noida, India
- Built warehouse automation solution integrating AMRs, ASRS, WCS in **Java, Spring Boot, MSSQL**, enhancing inventory tracking, task scheduling and robot fleet coordination while efficiently processing **10K+** orders daily.
- Designed a DWS system with **Springboot and REST APIs**, increasing inbound workflow automation by **80%**.
- Integrated **TCP/IP and PLC programming**, reducing signal transmission latency by **20%** for robot communication.
- Refactored WCS scheduling with **Python** and **Django** fixing **70+** bugs and optimizing storage by **35%** in warehouse.
- Optimized messaging with **Redis, Kafka, RabbitMQ**, improving coordination by **15%** between Zippy and SortIE.

OpenNets   **May 2021 – Jul 2021**
Full-Stack Developer Intern   Bengaluru, India
- Created a network simulator with **Mininet, Node.js, and MongoDB** to support 10+ network topologies, enabling traffic testing and performance evaluation under various configurations, cutting down configuration errors by **30%**.
- Utilized **AngularJS** to develop UI responsible for editing topology settings, contributing to **30%** of overall UI coverage.
- Collaborated with engineers using **Git** and **Agile** methods to deliver iterative improvements aligned with user needs.

Projects

UAV Autonomous Landing & Color-Based Navigation   **Jan 2025 - Present**
- Designed Motor mixing Algorithm utilizing **OpenCV, Python, Gazebo, MATLAB** for motion control, increasing stability, adaptive control, precision and dynamic path optimization achieving **97%** landing accuracy in **50+** test flights.

Path planning for Maze Solving with MyCobot Pro 600   **Aug 2024 - Nov 2024**
- Programmed a robot for autonomous navigation, motion planning and path optimization, incorporating inverse kinematics with **Python, OpenCV, MATLAB Simulink, ROS2**, reducing maze-solving time by **40%**.

Performance enhancement of underwater communication   **Jan 2022 - May 2022**
- Developed a deep learning model with **PyTorch, MATLAB, NumPy**, reaching **92%** accuracy and improving classification reliability, feature extraction, signal processing efficiency, and decision-making accuracy by **30%**.

Image Restoration of Natural Images   **Aug 2021 - Nov 2021**
- Implemented a **PyTorch**-based **CNN encoder-decoder** network with **ORSNet** to restore rain-affected images, achieving **90%** restoration accuracy on a dataset of **10,000+** natural images with enhanced texture preservation.

Achievements

Runner-up, Devils Invent Hackathon — Sponsored by Los Alamos National Laboratory (LANL)   **Mar 2025**
- Automated MiniFlow Ion Cell unpacking system with Dobot Magician Lite, AI, **Python** and pydobot for more efficiency.

Visual AI Hackathon Winner — Sponsored by Voxel51   **Feb 2025**
- Led the development of an OCR-based AI model for food safety using **Python, OCR, Pytesseract**.

Aerospace Factory Automation Devils Invent Hackathon — Sponsored by Honeywell Aerospace   **Apr 2025**
- Engineered a blockchain-based supply chain platform using React.js and smart contracts for traceability and compliance.