Vaman Rajagopal

856-360-0338 | vamanrajagopal@gmail.com | linkedin.com/in/vamanr | vamanr06.github.io

Education

University of Michigan Ann Arbor, MI

BSE in Computer Science *Anticipated Graduation Date: May 2027*

- Coursework: Data Structures & Algorithms, Linear Algebra, Intro to Computer Organization, Machine Learning
- Organizations: Michigan Hackers, MRacing, Google Developers Group
- Awards: Michigan Engineering Scholarship, Honorable Mention - Snap Inc. Track @MHacks 2025

Experience

Software Developer Aug. 2025 – Present

VTI Aerospace *Ann Arbor, MI*

- Implemented a Visual Odometry model in ROS2 and C++ using ORB-SLAM3, enabling GPS-free drone localization and trajectory mapping in simulation
- Set up simulation environment in AirSim and integrated IMU drivers with Ardupilot, validating pose estimation pipelines for autonomous navigation

Software Developer March 2025 – Present

Michigan Institute for Computational Discovery and Engineering *Ann Arbor, MI*

- Built a course assistant platform with React and FastAPI that lets instructors create chatbots linked to class materials and tools
- Integrated external APIs to fetch data from course systems, which strengthened my experience with backend design, data retrieval, and building reliable context-aware assistants for debugging and student support

App Developer March 2025 – Present

Google Developers Group *Ann Arbor, MI*

- Contributed to full-stack app development for nonprofits, focusing on design and implementation to support digital outreach
- Developed a Flutter and Firebase-based app for Cube360 with features like nearby event discovery and RSVP tracking to promote healthcare access and volunteer engagement

Autonomous Systems Engineer August 2024 – Present

MRacing *Ann Arbor, MI*

- Engineered a low-level C++ decoding algorithm to interpret raw CAN messages from distributed sensors and ECUs, enabling real-time telemetry for brake, steering, and throttle subsystems
- Integrated LiDAR data into a SLAM framework for precise vehicle localization and mapping, using ROS to interface with the racecar's perception and motion planning stack

Projects

Discord Bots | *Python, JavaScript, Golang, FastAPI, SQL, MongoDB*

- Built and scaled Python Discord bots with stat tracking, moderation, tournaments, trivia, and automation tools, improving engagement and safety in large communities
- Developed Golang + MongoDB backend powering 100+ real-time leaderboards and in-game commands, supporting 20k+ concurrent users

Resonant | *Gemini, Snap Inc Lens Studio, RekordBox, Flask, Python, Typescript*

- Built an AI-powered HUD on Snap Spectacles that uses Gemini to analyze live video, generating a hype score from crowd motion and displaying a real-time hype graph in the DJ's view
- Created a custom API connecting Rekordbox with the Pioneer DDJ-FLX4 deck and Snap Spectacles, enabling song data transfer and combining video + audio analysis to give DJs actionable, real-time crowd feedback

Technical Skills

Languages: Python, Java, NodeJS, JavaScript, TypeScript, C++, C, Golang, SQL
Frameworks/Libraries: React, Node.js, FastAPI, Firebase, ROS, PyQt, Flutter
Tools: Git, Docker, Linux, Postman, PostgreSQL, VS Code, Figma, Jira, Snap Inc. Lens Studio, CI/CD, LLDB