Neal Jayaraman

Cell: 313-324-6320 • Email: nealjman@umich.edu • Github: https://github.com/NealJman

SUMMARY

I am a senior currently pursuing a bachelor's degree in computer science. I have experience with network-based Robot Operating System (ROS. I and II), and microcontroller programming. Additionally, I've built GUI-enabled programs integrating with a microphone communicating with ChatGPT to create intelligent programs. I am seeking an internship position where I can build on my current software skills to construct challenging embedded and network-based software.

EDUCATION

University of Michigan – Dearborn GPA: 3.96
Expected Graduation: April 2025

Core Courses: Computer Networks & Distributed Processing, Operating Systems, Computer Organization & Assembly Language, Software Engineering, Data Structures & Algorithm Analysis
Skills: C++, Python, HTML/CSS, SQL, Robot Operating System (ROS), ROS II, web scraping
Software Applications: Git/GitHub, ArcGIS Pro, Arduino, QT Designer

EXPERIENCE

Wayne State University Robotic Lab, Summer internship (06/2023 – 09/2023):

- Wrote programs that integrated ChatGPT APIs
- Used Ubuntu to send ROS information across multiple computers
- Edited GUI files to initiate vocal descriptions
- Implemented ROS II on Windows to communicate information between nodes
- Modified robot interfaces using QT Designer
- Used Arduino to control a microcontroller and components attached to it such as a motor

RELEVANT PROJECTS

- **Voice-based ChatGPT Program:** Constructed a program in Python that when verbally asked how much a certain car model costs, will return the car's manufacturer, display its logo, and give a sample price. Used external software to enable voice input and the answers were pulled from an integrated ChatGPT API.
- **Robot Graphical User Interface:** Added buttons to a GUI, used to control a robot, that would launch ROS nodes and output audio recordings. Achieved by using ROS, ROS II, and QT Designer.
- **RC Car Control via Website:** Used a Blockly API to make custom movement blocks on a website that can be arranged to manipulate an RC Car. These are translated into python code which is sent to a Flask sever running on Raspberry Pi OS. It is then saved and executed as a script which controls the RC Car.
- **Collectibles Web Scraper:** Used web scraping to retrieve all collectibles from a website that were under a certain price. The name and price of the collectible are then stored in an Excel spreadsheet by utilizing the Pandas library. The spreadsheet is automatically updated daily, and the user is notified of this by either SMS message or email.
- **Two-Player Shooting Game:** Utilized the Pygame library to create a game where two players shoot and sink each other's islands. Character movements and shooting use keyboard input. Sound effects included.