Shubh Vashisht

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Education

- **University of Massachusetts, Amherst**   Amherst, MA
- Bachelor of Science, Computer Science (GPA: 3.703/4.000) (Dean's List)   Expected Graduation: December 2022

Technical Skills

Languages: Python, Java, HTML/CSS, C++, C, JavaScript   Tools: Git, AWS, Linux, Docker, Gitlab CI, Heroku
Libraries: React, Redux, Nodejs, Express, GraphQL, THREE.js   DBMS: MongoDB, SQL, PostgreSQL

Relevant Coursework

Software Engineering	Neural Networks	Principles of Data Science
Machine Learning	Natural Language Processing	Docker
3D Web Design	Algorithms and Data Structures	Continuous Integration
Full Stack Web Development	API Design	Object Oriented Programming

Experience

Outrider AI   **Brighton, CO**
Software Engineer II   **11/2024-Ongoing**
- **Designed and implemented ROS infrastructure** to record mission-specific ROS-bags, capturing data from all ROS topics and storing it on an external drive.
- **Developed event-triggered ROS bag recording** with pre- and post-event data buffers, enabling efficient debugging for robotic truck missions.
- **Created a ROS logging system** to record, store, and upload logs to S3, automating log management for event analysis.

Associate Software Engineer   **12/2022-Ongoing**
- Designed software architecture for web applications interacting with ros infrastructure.
- Built a web-based dashboard for reprogramming the truck in real time, making reprogramming faster by 200%.
- Built custom gitlab pipelines for enforcing industry standard practices such as pre-commit, release it and conventional commits.
- Developed a 3D web application using React and THREE.js that provided real-time rendering of a truck's 3D model within a yard, while simultaneously rendering the surrounding environment using cost map data.

Software Engineering Intern   **06/2022 – 12/2022**
- Assisted in building out features for software tools that interface with autonomous trucks.
- Built a web based 3d dashboard that rendered a robotic arm captured its movement in real time.
- Used object-oriented practices such as abstraction, inheritance and polymorphism to make code reusable and organized.
- The web app created was 85% faster than legacy software used for visualizing robotic arm.

Build UMass   **Amherst, MA (Remote)**
Software Engineer   **02/2022 – 12/2022**
- Created front-end module dashboard for accepting data sources, performing crawling, and analyzing and visualizing results.
- Used D3.js and MapBox API to visualize region specific data.

Personal Projects

- **Operating system simulator (React APP) Working Demo**   **03/2024**
  - Developed a fully functional React application that simulates a Windows environment, featuring a suite of applications including an MP3 player, video player, PDF viewer, and image viewer.
  - Implemented custom CSS styling from scratch to replicate the Windows UI design. Incorporated a file explorer component to facilitate navigation through files and directories.

- **KNN Classifier for Flower Species Recognition (Python, Numpy)**   **02/2022**
  - Wrote a Machine Learning KNN algorithm for classification of flower species for 50 different K values.
  - Achieved 97% accuracy with a standard deviation of 3.2% on a dataset of 150 inputs.

- **JavaScript Library "MoralFibre" (JavaScript)**   **04/2021 – 05/2021**
  - Launched a JavaScript Library on NPM that provides over 27 functions that supports favorite workaday functional helpers: map, filter, invoke and also incorporates 15 more specialized methods such as function binding and JavaScript templating.
  - These functions help in reducing coding time and also in writing cleaner code.