JOSHUA VIJAYASEGAR

📞 248-835-8142 ✉ joshv@umich.edu 🔗 LinkedIn ⭘ GitHub

Education

University of Michigan College of Engineering   **Aug. 2021 – May 2025**
B.S.E. in Computer Science Engineering, Electrical Engineering Minor GPA: 3.6/4.0   *Ann Arbor, MI*
Relevant Coursework: Web Systems (EECS485), Data Structures and Algorithms (EECS281), Embedded Systems (EECS373), Computer Organization (EECS370), Probability and Statistics (STATS412), Linear Algebra (MATH214), Logic Design (EECS217), Circuits (EECS215), Differential Equations (MATH216)

Experience

Capital One   **June 2023 – August 2023**
Full-Stack Software Engineering Intern   *Dallas, TX*
- Led the design and implementation of a robust API using Kotlin and Springboot, facilitating seamless data retrieval for the car comparison feature on the Capital One Autonavigator page. Ensured the successful deployment and smooth functionality of the API, enhancing the overall platform performance.
- Executed the development of interactive Lit Element components, enabling seamless integration of the car comparison feature onto Capital One's vehicle search page and optimized front-end experience. Collaborated with cross-functional teams (design and product) in the process.
- Conducted thorough testing and debugging of back end and front end components, employing tools like Postman and unit testing frameworks, achieving a 95 percent test coverage and ensuring high software quality and reliability.

Math Tutor   **February 2021 – December 2021**
Self Employed   *Troy, MI*
- Provided middle and high school students with instruction in fundamental mathematical concepts ranging from algebra to multivariable calculus through weekly lessons.
- Fostered effective problem-solving techniques and mathematical reasoning in students, tailoring lessons to each student's unique learning style and personality.

Projects

Heritage Hub | *Python, Flask, SQL, React, JavaScript, HTML, CSS, AWS, Git*
- Built a full-stack website where immigrants to the U.S. can securely create/edit profiles, add/delete/join cultural events in their area, join groups, view a feed of events, etc.
- Created a SQL database to store information regarding users, groups, and events and deployed the back end server on AWS using gunicorn.
- Built client site dynamic pages using React and JavaScript for user friendly interactions and efficient database calls.

Neural Network Image Classifier | *Python, PyTorch, Matplotlib*
- Developed fully connected neural networks and convolutional neural networks for image classification using PyTorch, working on a dataset of 60,000 32x32 color images across 10 classes.
- Implemented neural network models with multiple layers and applied activation functions for optimal performance, demonstrating proficiency in PyTorch and deep learning techniques.
- Conducted hyperparameter search for deep learning models, including grid search on learning rates and activation functions, achieving a best 60.8 percent accuracy on the convolutional neural network and 52.8 percent accuracy on the fully connected neural network.

Full Stack 3D Printer Tracking Website | *Java, Springboot, SQL, React, TypeScript, HTML, CSS, Git*
- Developed a full stack website for the Capital One Maker Space. In the website you can view the status of the 3D printers, schedule print jobs, schedule 3D printer training, and upload photos of your prints to a gallery.
- Built a back end authentication system to manage which computers can schedule print jobs. Also utilized a SQL database engine to store and manage print job data.
- Created animated front end components and a dynamic progress bar using TypeScript, HTML, CSS, and React.

Technical Skills

Languages: C++, C, Python, PyTorch, TensorFlow, JavaScript, TypeScript, Java, Springboot, Kotlin, SQL, Redis, React, Lit Element, HTML, CSS, Verilog, MATLAB
Other: Agile, Git/Github, AWS, CI/CD, Windows, MacOS, Linux, Figma