Vijay Ravi

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Overview

Results-driven developer with a strong foundation in algorithmic thinking, aiming to apply my analytical skills in full-stack development, machine learning and/or data science

Technical Proficiencies

Languages/Frameworks: Python, R, Java/JEE, SQL, C++, C, HTML5/ CSS3, JavaScript, TypeScript, RESTful API, Lua
Libraries: Pandas, React, Angular, Numpy, Matplotlib, OpenCV, Pytorch, Spring Boot, YOLO
Technology stack/Tools: Google Cloud Platform **(**GCP), mainly Firebase, Vertex AI, App engine, and Datastore. Git for version control.

Education

University of Michigan, Engineering **Ann Arbor, MI**
Bachelor of Science in Computer Science, Minor in Data Science Expected Graduation, May 2026

- GPA: 3.895 / 4.0
- Courses: Data Structures and Algorithms, Statistics, Data Science, Machine Learning, Database Management
- Activities: MFLY Autonomous - Computer Vision, Forensics - Impromptu Speech, Carnatic Violin, Cross Country
- Certifications: Google Certified Professional Machine Learning Engineer

Leadership/Technical Experience

MFLY Computer Vision **Ann Arbor, MI**
Team member September 2023-Current

- Implemented Convolutional Neural Network architecture for object detection in an edge device, with the objective of navigating and dropping payloads autonomously through a mechanical plane
- Generated sample training data using transformation techniques through openCV, numpy, and tuned the hyperparameters of the CNN for speed and accuracy optimization 100+ feet above the ground

Helivox 501(c)(3) **Troy, MI**
Lead Developer Jan. 2021-Aug.2023

- Designed and created the Helivox website by applying Angular through Firebase and trained team members to manage and develop the site using git source control
- Developed a non-profit with 200+ users and 40+ members to catalog courses, clubs, and opportunities across multiple schools and states

Research Experience

University of Michigan, DIAG **Ann Arbor, MI**
Team Lead Jan. 2024-Current

- Enhanced up to 12 premade classification models such as slide flow with advanced models built on architectures such as ResNet and U-Net, tailored for our novel dataset of 100+ Glioblastoma Multiforme slide images
- Organized a team of 4 to distribute work on applying techniques such as Bayesian Prism to analyze cell pathways

Wayne State University, Autonomous Vehicle Lab **Detroit, MI**
Assistant Researcher June. 2022-Aug. 2022

- Worked in a 2-3 person team to find a theoretical model for determining autonomous vehicle camera failure
- Evaluated varying architectures built on OpenCV, achieving accuracy scores of ~80% for generic failure classification on 10,000+ samples