Jotham Teshome

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EDUCATION

Michigan State University January 2023 – April 2024
Master of Science, Computer Science GPA: 3.85
- Relevant Coursework: Natural Language Processing, Computer Vision, Pattern Recognition, Deep Learning, Algorithmic Graph Theory, Distributed Systems

Michigan State University September 2019 – December 2022
Bachelor of Science, Computer Science, Minor in Business GPA: 3.69
- Relevant Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Algorithm Engineering, Web Application Development, Database Systems

EXPERIENCE

Graduate Teaching Assistant, MSU College of Engineering September 2023 – April 2024
- Evaluated assignments to uphold rigorous academic standards in the Web Application Development course
- Assisted students with helpful insight on **GitLab** by describing the uses for **HTML**, **CSS**, and **JavaScript** in **front-end** design, including topics such as responsive sizing and dynamic retrieval of data
- Improved students' understanding of **Flask** for **back-end** development by **7%** through hosting regularly scheduled office hour sessions

Machine Learning Engineer, Versive January 2023 – April 2023
- Developed **CNN**-based vision models using **PyTorch** to detect tumors in MRI scans, improving diagnostic accuracy and assisting doctors in providing patients with better outcomes
- Leveraged transfer learning with pretrained models (**ImageNet**) to enhance model precision and reduce training time
- Utilized **YOLOv8** for image segmentation to precisely localize tumor regions within MRI scans, leading to a **10%** increase in detection accuracy by focusing on relevant areas

Software Engineer, Versive September 2022 – December 2022
- Developed a secure web application for hospitals powered by **AWS services** (Amplify, RDS), allowing doctors to verify tumors detected in patient MRI scans
- Implemented encryption, role-based access control, and multifactor authentication to ensure patient data security
- Designed backend architecture using **Flask** to manage communications between **MySQL** database and **React** frontend

Software Engineering Intern, MSU Federal Credit Union September 2022 – December 2022
- Collaborated with colleagues to enhance MSU Federal Credit Union's mobile banking apps using **Flutter**, **Dart**, and **SQL**
- Designed an aesthetically pleasing user interface using **Flutter** and **Dart** to enhance customers' banking experience
- Implemented a modern peer-to-peer transfer system featuring usernames, QR codes, and NFC to increase usability
- Created a system using **Google Places API** to notify users of deals at local businesses based on shopping patterns

PROJECTS

Identifying and Removing Toxic Comments *Python, TensorFlow*
- Partnered with a peer to design an **RNN** model using **TensorFlow** for detecting toxicity in online comments
- Generated subword embeddings using **FastText** to better detect potential variations of toxic words in comments
- Achieved a word-level classification accuracy of **91%** using trigram embeddings in our multi-appearance word model
- Developed an automated system to censor toxic words to improve the efficiency of real-time content moderation

Portfolio Website *NodeJS, NextJS, ReactJS, Bootstrap, JavaScript*
- Designed a responsive portfolio website using **ReactJS** to display my experience and various projects
- Optimized performance through static site generation using **NextJS** to ensure a quality user experience
- Integrated a modern design using **Bootstrap** an aesthetically pleasing and polished user interface

SKILLS

Languages: Python, C, C++, JavaScript, HTML, CSS, SQL, Dart
Frameworks: PyTorch, TensorFlow, Scikit-learn, OpenCV, React, Node, NextJS, Flask, Flutter, Bootstrap
Developer Tools: AWS (Amplify, DynamoDB, EC2, RDS, Lambda), GCP, Git, Docker