Misikir Ayalew

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OBJECTIVE

MERN, Next.js & ML Engineer with a deep interest in building intelligent systems and real-world applications. I specialize in developing full-stack web solutions using technologies like React (Next.js), Django, Flask, and FastAPI, with robust data handling through MySQL and MongoDB. Python is my core language, particularly for data-driven tasks and machine learning workflows using libraries such as pandas, NumPy, scikit-learn, and frameworks like TensorFlow and PyTorch. I'm eager to contribute to AI-powered systems, automate smart solutions, and explore innovations at the intersection of software engineering and machine learning.

EDUCATION

BSc in Computer Science 05/2022 – 06/2025
Haramaya University ; GPA : 3.17 Haramaya, Ethiopia
Relevant CourseWork : Machine Learning, Artificial Intelligence, Deep Learning, Natural Language Processing, Data Science with Python, Web Programming, Software Engineering, Database Systems , Object-Oriented Programming , Data Structures and Algorithms

EXPERIENCE

React.js Instructor 09/2024 – 06/2025
Haramaya University Haramaya, Ethiopia
- Conducted React.js training sessions for university students
- Developed comprehensive curriculum and learning materials
- Mentored students in modern web development practices
- Organized hands-on coding workshops and projects

Machine Learning Intern 06/2024 – 09/2024
Enat College Shashemene, Ethiopia
- Developed an AI-powered exam proctoring system using TensorFlow and pre-trained object detection models, resulting in a **25% increase in exam integrity by identifying and flagging cheating behaviors such as phone usage, collaboration, and suspicious movements**.
- Engineered a multi-modal detection pipeline that **combined facial analysis, body movement tracking, and environment scanning**, significantly reducing undetected cheating incidents.
- **Integrated the detection engine into a MERN-stack application** with real-time video analysis and instructor-facing dashboards, improving monitoring efficiency and enabling **instant violation alerts and post-exam review**, cutting manual review time by over 40%.

SKILLS

Technical Skills
HTML, CSS, JavaScript, TypeScript, React, Next.js, React Native, Node.js, Express.js, Django, Flask, FastAPI, Python, C++, MySQL, MongoDB, PostgreSQL, Git, GitHub, REST APIs

Soft Skills
Problem solving, Team collaboration, Continuous learning, Communication, Adaptability, Project ownership, Time management, Critical thinking

Language
English - Proficient
Amharic - Native
Oromic - Proficient

Tools & Technologies
Docker, Kubernetes, Postman, VS Code, Linux, Streamlit, TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, MUI, Tailwind CSS, Bootstrap, SASS, Langchain

Focus Areas
Full Stack Web Development ,Mobile App Development , Machine Learning , Artificial Intelligence ,Intelligent Systems, LLM-powered Applications, Research and Innovation

PROJECTS

AI resume analyzer

A web-based application built with Python and Streamlit leverages Groq's large language model to provide intelligent resume evaluations. Users can upload PDF or DOCX resumes and receive detailed, actionable feedback on skills, experience, education, structure, and formatting, with downloadable JSON reports. The system securely handles resume uploads, parses documents using PyPDF2, pdfminer.six, and python-docx, and integrates the Groq API for AI-powered analysis, all while managing environment security and API credentials through dotenv.

- Responsive, user-friendly interface with clean UI and structured feedback presentation
- In-depth content analysis covering strengths, weaknesses, and improvement areas powered by Groq AI

Proctor

AI-Powered Online Exam Monitoring System

An advanced web-based proctoring system that ensures academic integrity during remote exams using AI-powered real-time monitoring. Built with React, Node.js, MongoDB, and TensorFlow.js, it detects unauthorized objects and suspicious behaviors through computer vision models (COCO-SSD and PoseNet). Features role-based dashboards, JWT-secured authentication, and real-time alerts using WebRTC and Redux for seamless state management.

- Real-time object and pose detection using TensorFlow.js (COCO-SSD & PoseNet)
- Live student monitoring and automated suspicious behavior logging
- Role-based dashboards for professors and students with activity reports
- Secure JWT authentication, encrypted exam environments, and MongoDB storage
- Integrated WebRTC for live video feed and Material UI for responsive design