Eugene Mwangi Mwaniki

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SKILLS

- Python, JavaScript, TypeScript, C, C++, Java, Kotlin, HTML, CSS
- SQL, MySQL, PostgreSQL, SQLite, MongoDB, Redis
- Express, Flask, Django, FastAPI, React.js, Next.js, Node.js, Express, Angular, Google Cloud API, OpenAI API, AWS
- Android App Development, Operating Systems, Microservices, Backend, RESTful APIs, Frontend, Docker, Agile, Git
- Figma design (FAST)

WORK EXPERIENCE

Turing Enterprises (AI trainer)

- Trained AI LLM models on Python code to understand and produce coherent and functional code to do a wide range of tasks from common problem solving to complex backend systems in Flask, Django and FastAPI.
- Spearheaded the training of AI LLM on JavaScript code with the goal to produce high quality, efficient and scalable code on a variety of tasks from frontend document manipulation with React.js, HTML and CSS to backend management with Node.js, Express and testing with Jest and Mocha.
- Worked on training AI agents in using tool calls to make sure that it gets up to date information. This involved getting the model to use weather, place details, route finding and stock-based tools.

Octavia Carbon (Intern)

- Developed firmware to run direct air carbon capture machines, designed to capture 1000 tons of carbon dioxide annually, with the goal of controlling the functionality and managing the sensor data with speed and efficiency at the core.
- Pioneered the use of AI for runtime parameter optimization with the sole purpose of running the machines at maximum efficiency to maximize yield.

UNReLo (University of Nairobi)

- Designed and implemented code the entire communication back haul software between a LoRa gateway and a satellite and satellite to ground station.
- Mentored students to use the configuration, starting and use of the software, and best practices on the communication setup necessary.

PROJECTS AND FURTHER EXPERIENCE

Trading Application

- Designed the frontend of a trading application with a trading view that renders appropriately for phones, tablets, and desktops, all from user objectives, to Figma wireframes and prototypes to the final React.js frontend, and the backend from the API calls to rate limiting with Redis, all with a Node.js Express backend.
- Tested all components with Jest to ensure proper rendering and backend calls to the appropriate APIs and the proper functionality of the backend, managing orders and automating the order process.

Tic-tac-Toe Game

- Constructed a fully functional game all with HTML, CSS and JavaScript with remarkable cookie management to ensure inter-session continuance. Designed the game with stunning visuals and transitional effects, together with a visual guide to help users play. Implemented the computer player logic using AI in JavaScript, ensuring that there are configurable levels of difficulty and fast and efficient DOM manipulation.

E-commerce Platform

- Engineered a fully functional e-commerce platform with an interactive frontend and a robust backend. The backend had proper session management and a functional database that stored the stock, images and user credentials while incorporating encryption and hashing for secure storage.

AI Document Analysis Tool

- Lead a team to architect a full stack application that allowed users to upload a company's sustainability report in several formats, and used Gemini 1.5 Flash together with other libraries to handle the analysis and post API call analysis, before rendering the output in graphic, tabular and text formats. Deployed the solution on a VPS (Virtual Private Server).
- Collaborated with team members to ensure fast and collaborative development and testing of features using GitHub, Google Meet meetings, and in person meetings.

Game Development

- Engineered a native browser game, with an interactive, elegant and responsive interface, with cookie integration for progress tracking across sessions.
- Integrated an advanced mode for training into the game with stunning visuals and effects to guide the user through the paces of playing the game.

Solution Development

- Formulated and built a full stack application to solve sudoku puzzles from random images of unsolved puzzles to a fully solved puzzle images in under 5 seconds, leveraging advanced image-based AI models and complex solving algorithms and rendering modules.
- Invented Android applications that use a vast library of words to solve game puzzles, like Wordle and 4 Pics 1 Word, quickly, while minimizing the cost in context with gameplay chances.

AI Development

- Developed a full AI library in Python, where the entire library was written from scratch using Numpy for faster ML computations. I also improved the library to increase its performance by incorporating automatic acceleration based on the number of CPU cores.

EDUCATION

Coursera

Certificates in Front End Development by Meta

Certificates in Artificial Intelligence with Python and TensorFlow by DeepLearning.AI

Certificates in AWS Cloud Solutions Architect

University of Nairobi

Bachelor's Degree in Electrical and Electronics Engineering (2024)