Mo Aljuboori

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Education

University of California Berkeley *Berkeley, CA*
*Bachelor of Arts in Computer Science — **GPA 3.83 of 4.0*** *Dec 2024*
Selected Coursework *Machine Learning, Natural Language Processing, Parallel and Distributed Computing, Computer Security, Computer Networking, Computer Architecture, Operating Systems, Efficient Algorithms, Optimization Models*

Technical Skills

Languages: Python, Java, C++, Typescript, Javascript, Go, SQL, Rust, Swift, HTML/CSS
Tools and Technologies: PyTorch, TensorFlow, Agile/Scrum/DevOps methodologies, Docker, AWS, Pandas, React, Flask, Git

Experience

Teaching Assistant *Jul 2024 – Aug 2024*
AddisCoder *Ethiopia, Africa*
- Working along side Prof. Jelani Nelson to teach an intense 4 weeks deep dive course on algorithms and data structures in Ethiopia, Africa, to the top 100 brightest 10/11th graders in the country, with 3 hours of lecture and 4 hours of lab per day
- Led a lab session for 23 students, hosting lectures on topics that were hard to understand during main lecture, and providing support to students on their lab python notebooks, which I also created.

Undergraduate Researcher *Jan 2024 – May 2024*
Berkeley Rise Lab: Gorilla LLM *Berkeley, CA*
- Created a data pipeline for transforming API documentation into structured JSON, leveraging a web interface for API URL ingestion, Python requests for documentation retrieval, and GPT-4 chat API for data conversion. URL Link
- Created an interactive web-based HTML interface to improve user interaction with Gorilla LLM outputs

Software Engineer Intern *Mar 2023 – Aug 2023*
Ai.vocate *Berkeley, CA*
- Developed a chatbot iOS application using **Swift**/**SwiftUI** and **Firebase**, and integrated chatbot API interactions using MVVM design architecture, with the goal of making legal advice more accessible
- Built and designed 5 distinct views (Log-in, Sign-up, Home, Chat History, Message) grounded in solid UI/UX principles, ensuring an intuitive and engaging user experience.
- Devised robust data management strategies using Firebase for the secure handling and displaying of user/chat data across the app, enhancing both the performance and reliability of data interactions.

Teaching Experience
UC Berkeley College of Computing, Data Science & Society *Jan 2023 – May 2023*
- Guided **30+** students through **12** weekly labs, leveraging python & statistics to analyze real-world datasets

Calculus I Head TA *Apr 2021 - Jun 2021*
- Tailored discussion sections to effectively target and remedy students' weaknesses, employing diverse teaching techniques to accommodate varied learning styles and enhance overall comprehension.
- Created exams, homework, and discussion materials in LaTeX, enhancing clarity and student learning experiences.

Projects

Neural Network for Image Classification | ***Python: PyTorch, Numpy*** *Project — Leaderboard*
- Built a configurable **convolutional neural network** from scratch in **Python** using **NumPy**; created dense, convolutional, and pooling layers with various activation functions. Implemented backpropagation for each layer with stochastic gradient descent (with and without momentum)
- Achieved an accuracy of **93.6%** on the **CIFAR-10 test dataset**, securing a **top 3 ranking** among **500+ participants** in a highly competitive university setting.

Secure File Sharing System | ***Go, Cryptography*** *Project*
- Built a **secure file sharing system** that supports user authentication, file operations, sharing & revocation
- Implemented cryptographic **encryption schemes**, **RSA signature verification**, etc., to ensure the **confidentiality**, **authenticity** & **integrity** of sensitive data in the face of a suite of malicious attacks on our code by the course staff
- Achieved the **highest score** among **331 teams** in the class, outperforming the average by **+2.33 standard deviations**, demonstrating exceptional proficiency in **secure system design and implementation**.

DotPrompt (@ UC Berkeley AI Hackathon) | ***React.js, Node.js, Tailwind CSS, OpenAI API*** *DevPost*
- Built a platform for **AI Prompt Engineers** to write **generative AI prompts** in a new prompt scripting language the team invented. Consumers can then browse these prompts, edit key parameters & run them in-house
- Implemented a front-end **prompt editor engine** in **Flask**, **HTML** & **CSS** for users to tweak gen AI prompts