

ALEXANDER LEUNG

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Education

University of California, Santa Cruz

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B.S in Computer Engineering | GPA: 3.93/4.0

Professional Experience:

Machine Learning Researcher | RREES | University of California, Santa Cruz 1/2024 - Present

- Built voltage sensor (EADS) for high resolution monitoring of residential electrical service.
- Signal capture and conditioning, analog-to-digital conversion, hardware design and implementation for delivery of digital data to Raspberry-pi.
- Used Python for digital data capture and communication for data storage in a cloud server.

FullStack Developer | HeadStarter | Remote 6/2024- 9/2024

- Integrated the software with the client's existing platforms through APIs, enabling seamless data flow and system interoperability.
- Conducted market research and competitive analysis to inform decision-making, shaping the direction of project deliverables and ensuring alignment with client goals.

FPGA Researcher | IEEE Lab | University of California, Santa Cruz 7/2024 - 8/2024

- Utilized applications of FPGA (Field Programmable Gate Array) technology, including digital design, VHDL programming in order to better understand radiation detection
- Utilized built-in simulation tools in Xilinx ISE to run functional and timing simulations, verifying the correctness and performance of the design.

Projects:

AI Flashcard Generator | React, Next.js, OpenAI, Clerk, Stripe

- Utilized OpenAI's API to generate 10 real-time, AI-driven flashcards on any topic specified by the user. Implemented algorithms to query and process AI-generated content, ensuring concise flashcard creation.
- Built secure user login, registration, and profile management features using Clerk, ensuring compliance with best practices in security and user data protection

AI Customer Support | React, Next.js, OpenAI

- Designed and implemented a custom AI chatbot using natural language processing powered by OpenAI to handle common customer queries, reducing response times by 50%.
- Architected the backend infrastructure using Node.js and Express, creating a robust environment for handling API requests and managing user sessions.

Inventory Management | React, Next.js, Firebase

- Implemented full stack development solutions for an inventory managing web application, accurately tracking and saving supply and items.

- Integrated real-time sorting functionalities with Next.js, enabling instant updates and interactions among users.

Technical Skills:

Programming Languages: Java, Python, Assembly, JavaScript, HTML, CSS

Framework/Tools: React, Node.js, OpenAI, Clerk, Stripe, Firebase, Git, FPGA, Xilinx IS,