ALASTAIR DENG

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Education

Stanford University   Stanford, CA
GPA: 4.028, B.S. Candidate in Computer Science   June 2027
Relevant Coursework: Programming Abstractions, Computer Organization & Systems, Mathematical Foundations of Computing, Linear Alg. & Multivariable Calculus, Intro to Scientific Python, Intro to Software Systems/Tools

Benjamin Franklin High School   New Orleans, LA
Valedictorian, Captain of Track & Field Team, All-National Violinist, GPA: 4.0, ACT: 36   May 2023

Software Engineering Experience

2nd Chance   Stanford Treehacks Hackathon
Lead Developer   12/16/2023 – 12/18/2023
- This 36-hour hackathon project simulates a person in conversation using their iMessage data and voice. Text-to-text conversations and speech-to-speech conversations are supported
- Technologies include OpenAI's Vector Embedding, Whisper, and ChatGPT features as well as ElevenLabs' voice cloning and audio responses. The web-app was built using Next.js as the frontend and Convex as the backend, with Convex's Vector Search feature being utilized to generate realistic responses.
- I implemented text-to-text (Vector Search & Embeddings), speech-to-speech (Whisper, ElevenLabs), and the web-app (Next.js, Convex, Tailwind CSS)

Posers!   Stanford, CA
Full Stack Developer   12/2023 – Present
- Created a web game which involves machine learning that estimates a user's pose from live webcam footage. The approximate positions of key body parts (elbows, shoulders, etc.) on the image are located, normalized, and compared to check whether the user is in the correct pose
- Application employs the AI framework MediaPipe for pose estimation and was built using Next.js, TRPC, Prisma, and Typescript

Access DB   Stanford, CA
Full Stack Developer   11/2023 – 12/2023
- Developed, built, and designed a web application that uses AI to recommend scholarships to college students with disabilities. Searches are powered by a customized ChatGPT AI with Vector Embeddings
- Application utilizes OpenAI's API + Pinecone for AI-powered searches, Next.js + TRPC + Prisma + TypeScript to ensure full-stack type safety, Clerk for authentication, and Tailwind CSS for UI/UX
- Collected 100+ scholarships via web scraping 10+ unique sites with BeautifulSoup in Python

Admitted   New Orleans, LA
Co-Founder, Full Stack Developer   6/2023 – Present
- Developing Admitted, a college prep service connecting high school students with college students, providing affordable access to high-quality essay reviews, resume reviews, and mock interviews
- Designed the UI/UX, including the layout, visual design, icons, and graphics
- Implemented RESTful API for financial transactions and an automated email communication system

Other Experience

Tulane University School of Science and Engineering   New Orleans, LA
Student Researcher   9/2019 – 9/2021
- Co-authored publication: *"Characterizing the role of Pdgfra in calvarial development"*
- Researched the underlying molecular mechanisms in craniofacial disorders using a mouse embryo model

Technical Skills

Programming Technologies: Java, C, C++, Python, JavaScript/TypeScript, HTML/CSS
Software/Web Development: React.js/Next.js, Prisma, TRPC, Node.js, Express.js, Firebase, Flutter
Data Science: Python with NumPy, Pandas, and scikit-learn; Web Scraping (BeautifulSoup)