Alex Gao

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alexgaoth.com

Education

University of California, San Diego GPA: 3.98 / 4.0
Bachelor of Science, Mathematics–Computer Science June 2027

Coursework: Honors Calculus/Analysis; Linear Algebra; Discrete Mathematics; Data Structures; Object-Oriented Programming. System Programming.

Skills

Languages: JavaScript; TypeScript; Python; C/C++; Java; SQL; HTML; CSS.

Frameworks: React; Node.js; Next.js; Flask; PyTorch; OpenCV; LangChain; OpenAI API; MCPs.

Tools: Git; Docker; CI/CD; AWS; Firebase; Supabase; MongoDB; PostgreSQL; REST APIs; GraphQL.

Experience

Climind San Francisco, CA
Software & DevOps Intern May 2024 – August 2025

- Built and deployed a web crawler collecting ESG reporting data and bond information, producing over 1M+ tokens to enhance the company's language model training pipeline.
- Improved data quality and model performance through systematic workflow optimization for the LLM pipeline.
- Implemented containerization with Docker and established CI/CD pipelines for reliable deployment.

Radians London, UK
Director & Lead Developer August 2023 – April 2024

- Designed and deployed a full-stack e-commerce website using React, Node.js, and MongoDB for the company's physical product.
- Implemented customer support system integrating email workflows (Gmail/SMTP) and VoIP call routing.
- Directed marketing initiatives including social media campaigns and digital outreach strategies.

Projects

Signalor

- Co-founded a product review analytics platform aggregating customer feedback from Amazon, Reddit, and YouTube using AI to generate actionable insights for product teams.
- Architected backend APIs with connector endpoints, normalized review schema, and BullMQ job queues for scalable data processing.

Fractal Simulator

- Built an interactive web application for rendering and exploring fractal patterns including Mandelbrot and Julia sets with real-time zoom and pan controls.
- Optimized rendering performance using WebGL shaders and web workers for parallel computation.

Encoder-Only Transformer

- Implemented a BERT-style encoder-only transformer from scratch in PyTorch, including multi-head self-attention, positional encoding, and layer normalization.
- Trained the model on a custom text corpus with configurable hyperparameters for embedding dimension, number of layers, and context window size.
- Built fine-tuning pipeline for downstream classification and token-level tasks using the pretrained encoder representations.

Awards

3x Hackathon Winner, SDxAnthropic; SDxVercel; UCSD SMASH 2025 – 2026
Gold Medal, British Informatics Olympiad 2025
Gold Medal, British Mathematical Olympiad Round 1 2024, 2025
Silver Medal, British Algorithmic Olympiad 2024