Samuel Ou

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TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C#, SQL, HTML, CSS
Frameworks and Libraries: React, NextJS, Django, Flask, Mongoose, SQL Alchemy, Node, Express, Tailwind
Databases and Developer Tools: AWS, PostgreSQL, Groq, OpenAI, Pinecone, Jupyter, MongoDB, Git

EXPERIENCE

Software Engineering Fellow   Jul 2024 – Present
Headstarter AI   *Remote*
- Built and deployed several SaaS products supported by Llama 3.1 LLM via the Groq API and integrated paywalls through the Stripe API
- Worked in teams of three to develop an interactive customer support agent using Next.js and integrated a custom RAG pipeline using OpenAI and Pinecone
- Practiced agile methodologies with weekly sprints and incorporated CI/CD practices for iterative deployment

PROJECTS

AceIt | *TypeScript, NextJS, Supabase, PostgreSQL, OpenAI*   Aug 2024 – Sep 2024
- Secured user authentication and endpoint protection with Supabase, ensuring robust access control
- Optimized relational schema and enforced database policies, improving data management by 40%
- Utilized Shadcn UI to create lightweight and responsive components, significantly reducing load times
- Leveraged AI to dynamically generate personalized study materials for 50+ users

Amazon Rainforest Guide | *React, NextJS, Python, Jupyter, OpenAI, Pinecone*   Aug 2024
- Developed an interactive educational web application to win BITS 2024 True Nature Waypoint Contest
- Integrated OpenAI and Pinecone to create a RAG-based AI chatbot, enabling accurate real-time responses
- Designed a vector search pipeline using Pinecone's indexing and Jupyter Notebooks for data upsertion
- Implemented responsive, ADA-compliant design with custom animations using CSS and React hooks

MySafety | *TypeScript, React, NextJS, Firebase, RapidAPI*   Jul 2024
- Developed a community safety app to enhance neighborhood security with real-time data visualization
- Spearheaded front end development and optimized user interface with responsive design
- Utilized Firebase for seamless user authentication and tracking user analytics
- Maintained CI/CD protocols using Git for version control, ensuring smooth code integration and deployment

E-Commerce | *TypeScript, React, AWS, DynamoDB*   Jan 2024 – Present
- Utilized AWS Cognito for secure user authentication and DynamoDB for scalable database management
- Implemented responsive web design to provide seamless user experience across all screen sizes
- Improved scalability and reduced operational costs through serverless computing with AWS Lambda
- Conducted end-to-end testing with AWS Appsync to secure payment gateways and protect user data

CashTrack | *TypeScript, React, NodeJS, ExpressJS, MongoDB*   Nov 2023 – Jan 2024
- Created an intuitive dashboard to track expenses and visualize financial data
- Reduced data retrieval time and app performance by 35% by designing optimized schema
- Implemented login with secure authentication and session management with Express-Session
- Leveraged schema flexibility in MongoDB to handle complex relationships and nested documents

SteelStance | *React, NextJS, Python, Flask, SQLite, SQL Alchemy*   Oct 2023 – Nov 2023
- Designed and implemented RESTful APIs using Flask to handle user authentication and record management
- Ensured data integrity by validating relationships and constraints between users and records
- Improved performance by implementing custom sorting algorithm of records in table components
- Leveraged SQLAlchemy to abstract complex database operations, demonstrating strong ORM proficiency

EDUCATION

Flatiron School   Manhattan, NY
Software Engineering Bootcamp   *2023*
Stony Brook University   Stony Brook, NY
Bachelor of Science in Biology   *2023*