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, OpenAI, Groq, Pinecone, Jupyter, Firebase, PostgreSQL, MongoDB, Git

EXPERIENCE

Software Engineering Fellow — Jul 2024 – Present
Headstarter AI — *Remote*
- Built 5+ AI apps using NextJS, OpenAI, Pinecone, StripeAPI with 98% model accuracy, verified by 1000+ users
- Led the development of AI-powered websites from design to deployment using MVC design pattern
- Coached by Amazon, Bloomberg, and Capital One engineers on Agile, CI/CD, Git, and microservice patterns

PROJECTS

Amazon Rainforest Guide | *React, NextJS, Python, Jupyter, OpenAI, Pinecone,* — Aug 2024
- Developed an interactive educational web application for the 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 40% 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
- Optimized queries with SQL Alchemy, leveraging in-memory storage for increased speed

Auto Service | *React, NextJS, Python, Flask, SQLite, SQL Alchemy* — Sep 2023 – Oct 2023
- Refactored table components by reducing clutter by 30% and using semantic HTML elements
- Created unit and integration tests to prevent conflicting user appointments and market bids
- Implemented custom quick sort for simultaneous UI updates and sorting posts by time and popularity
- Led code reviews and standups, fostering collaboration and improving code quality

EDUCATION

Flatiron School — Manhattan, NY
Software Engineering Bootcamp — *2023*

Stony Brook University — Stony Brook, NY
Bachelor of Science in Biology — *2023*