SICHAO(SEAN) LIU

Senior Software Engineer

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SUMMARY

Sean is an experienced software engineer with 8+ years of delivering impactful digital solutions.
From developing AI-powered platforms and recommendation engines to building scalable applications, he transforms ideas into user-friendly products that drive business growth.
With a background in retail, healthcare, and AI, he combines deep industry insights with expertise in software engineering and AI technologies.
Sean excels at leading cross-functional teams, solving complex challenges, and turning innovative ideas into impactful, user-friendly solutions.
Passionate about building resilient systems, he specializes in JavaScript, TypeScript, Python, and AI technologies, always focused on using technology to solve real-world problems and drive business growth.

EXPERIENCE

06/2024 - 12/2025

San Francisco, California

Senior Full Stack AI Engineer
Scale AI

- Worked on LLMs using Reinforcement Learning from Human Feedback (RLHF), debugging and rewriting AI-generated code in Python, Java, and C++ to improve performance and meet coding standards
- Analyzed over 1,000 datasets using Pandas, NumPy, and Matplotlib, optimizing data processing pipelines and reducing processing time by 20%
- Scaled databases and optimized AI-driven queries, improving query efficiency by 15% while ensuring the system remained scalable
- Reviewed 2,000+ full-stack code submissions (including Django, Flask, React, SQL), enhancing model accuracy per batch by 25%
- Built full-stack systems to support expert acquisition for RLHF and data-labeling, contributing to AI applications for the public sector and ranking 4th globally in coding accuracy on Llama 3.1 405B Instruct

06/2022 - 03/2024

Pittsburgh, Pennsylvania

Senior Full Stack Engineer
Abridge

- Designed and optimized backend services to process vast amounts of real-time clinical data, utilizing FastAPI, PostgreSQL, and Redis for fast, secure data retrieval and storage within Abridge's proprietary system
- Redeveloped the front end using React, and refactored the code for improved performance and maintainability
- Built backend storage solutions using AWS S3 and PostgreSQL, applying data partitioning and indexing to optimize the storage and retrieval of patient conversation data, ensuring fast and reliable access
- Integrated AI APIs such as transforming clinical conversations into comprehensive documentation
- Integrated AI models with TensorFlow and Python to enhance speech recognition, language context, and medical term transcription,
  using NLP to help clinicians document patient conversations accurately
- Containerized the project using Docker and Kubernetes, automated the workflow using Jenkins

04/2020 - 05/2022

San Francisco, California

Senior Software Engineer
Carbon Health

- Worked on core engineering efforts for the Provider and Patient apps, including features for Diabetes, Asthma, Metabolic Health Assessment, and COVID-19-related improvements using React to enhance app functionality
- Migrated user authorization and appointment scheduling from a legacy Scala monolith to Kotlin microservices on AWS, enabling independent scaling and a 3x increase in API request rate
- Built backend systems with FastAPI to identify billing and insurance claim discrepancies, improving accuracy and reducing errors, while working closely with medical coding specialists
- Stored and retrieved data for exploratory data analysis and model building using SQL and Snowflake
- Reduced the error in predicted revenue over the existing method by 30% using machine learning techniques in Python, improving the accuracy of predictions
- Reconciled data sources across internal systems and Stripe, ensuring consistent and reliable financial reporting
- Mentored fellow engineers on web development best practices, improved the codebase, and upgraded libraries to increase team efficiency

05/2017 - 03/2020

Bentonville, AR

Software engineer
Walmart

- Worked with the Online Grocery Pickup team to manage customer orders, coordinating with 30+ employees to meet hourly goals
- Helped maintain and improve Plutus, a payment system using JavaScript, that handles transactions, ensuring smooth processing of payments
- Led the move from MariaDB to MS SQL, and then to Oracle, making sure the system could handle up to 50K transactions per second during peak times
- Refactored payment systems and set up Kafka using JavaScript to handle large-scale data processing, improving the speed of transaction handling
- Worked with teams across the world to create and improve integration systems for Order Management, Inventory, and Payment Processing

SKILLS

Languages

JavaScript   Typescript   Python   PHP   Java   C/C++

Front End Interface

React.JS   Vue.js   Next.js   MUI   Tailwind CSS   Bootstrap   HTML5/CSS3

Back End Infrastructure

Node.js   Express.js   FastAPI   Django   Flask   Laravel   REST API   GraphQL

AI Development

AGI   LangChain   Lang Graph   Prompt Engineering   RAG   LoRA Fine-Tuning   RLHF   AI Agents

Large Language Models   OpenAI ChatGPT   Google Gemini   Anthropic Claude   Meta Llama   Machine Learning

Deep Learning   TensorFlow   PyTorch   NumPy   Pandas

Database Management

PostgreSQL   MongoDB   MySQL   Redis   Elasticsearch   Snowflake

System Ops & Ecosystem

AWS   Azure   GCP   Docker   Kubernetes   Terraform   Jenkins   Git   Kafka   Nginx   Linux

Test Tools & Frameworks

Jest   Cypress   Pytest   PyUnit   Mocha

SOFT SKILLS

✔ **Entrepreneurial Mindset**   ✔ **Problem-solving**

✔ **Adaptability**   ✔ **Leadership**

EDUCATION

2013 - 2017
Houston, Texas

● BA in Computer Science
Rice University