

# 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 - 10/2025

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
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Full Stack Development

React.JS	Vue.js	Next.js	FastAPI	Django	Node.js	Express.js	Laravel	REST API	GraphQL
HTML5	CSS3	Bootstrap	Tailwind CSS	MUI					

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			

Test Tools & Frameworks

Jest	Cypress	Pytest	PyUnit	Mocha
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DevOps & Other

Git	Jira	Docker	Kubernetes	Jenkins	Terraform	AWS	Azure	GCP	SQL	MySQL	PostgreSQL
MongoDB	Elasticsearch	Algolia	Redis	Kafka	Stripe						

SOFT SKILLS

- ✓

Entrepreneurial Mindset
- ✓

Adaptability
- ✓

Problem-solving
- ✓

Leadership

EDUCATION

- 2013 - 2017

Houston, Texas
- BA in Computer Science

Rice University