

# Samuel Tsao

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## Education

San Jose State University, San Jose CA  
University of California San Diego, La Jolla CA

M.S. Artificial Intelligence 2027  
B.S. Computer Science 2017

## Work Experience

Human Interest, Remote

07/2025-present

Senior Software Engineer - Record Keeping (typescript, Kotlin, sql, aws, docker, k8s, terraform)

Ledger System architect managing billions in dollars of assets to enable people to invest in their 401k

- **Auto Scaling ECS:** Saved 40% in ECS cost by creating frameworks enabling autoscaling across the company
- **Correction Tool:** returned millions of dollars to customer accounts from checks never cashed
- **Monitoring:** reduced false alerts by 200 / year by creating more focused monitor rules

Nursa, Remote

5/2023 – 3/2025

Senior Software Engineer - Marketplace (typescript, angular, sql, aws, gcp, docker, k8s)

Customer facing product planning, development, architecture, and design. Specializing in reliability and resilient code

- **Process Improvement:** Enhanced team velocity by ~10% using AI language assistance and structured code reviews through structured PRs (skeleton, implementation, refactor).
- **Monitoring & Alerts:** Implemented the company's first fully monitored alerting system (Datadog, PagerDuty), achieving a 30-minute recovery time, resolving latency issues, and removing legacy features.
- **Performance Testing:** Identified a 0.5% failure rate at 1,000 concurrent requests during performance testing.
- **ML Infrastructure:** Built backend infrastructure to accelerate data model usage, increasing model adoption by 5%.
- **Search & Maps:** Developed a search and maps feature that improved user conversion by 11% for 300,000 users.

Affirm, San Francisco CA

12/2021 – 3/2023

Software Engineer - Marketplace, Monetization Ads (Python, Kotlin, AWS)

REST api for customer facing products and implementation of ads infrastructure

- **Product Experiments:** Conducted A/B testing on experimental changes impacting 5 million users, collaborating with cross-functional teams to ensure stability and manage rollbacks.
- **Redundant Fail Safes:** Identified and mitigated potential failure points, preventing critical errors during UAT and production testing of the ad platform.

ProofPoint, Sunnyvale CA

3/2019 – 12/2021

Software Engineer – Identity Management Service (Java, Sql, Nosql, Perl, Cassandra, PuppetNG, Jenkin, Kubernetes, Docker)

Managed the full product lifecycle such as network management, devops, data security, system design, and data architecture

- **Database Migration:** Service and data store migration to new data center adding geo-redundancy
- **Testing Architecture:** Reduced build time by 80% with continuous, randomized E2E tests.
- **Scaling and Performance:** Scaled out service to handle millions of requests a day with performance testing
- **Identity Management Service:** Developed a modernized service with features like streaming to pagination for queue fairness and implemented randomized testing, cutting test runtime from 3 hours to 30 minutes.
- **Devops:** Implemented new Jenkin builds for new pipelines
- **Sales Engineer Script:** Developed and maintained scripts used by sales engineer.

Kaiser Permanente, Pleasanton CA

7/2017 – 03/2019

IT Rotational Associate - Enterprise Integration Service, Middleware Operations Service, Innovative Technology

Sprint Light Institute, Cupertino CA

7/2016 – 09/2016

Web Developer + Java/python Teacher

## Skills & Technologies

**Skills:** Microservice Development, Database Architecture, Distributed Systems, Data Security, Infrastructure Management, Test Driven Development, Monitoring / Alerting, IOT, Scripting, Machine Learning, ML infrastructure

**Technologies:** JaxRS, Aurora, Spock, Jenkin, Nodejs, Docker, Kubernetes, GCP, Algolia, Datadog, PagerDuty

**Languages:** Java, SQL, Python, C++, Javascript, Bash, Perl, Typescript