

Zeke Milay

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EDUCATION

University of California, Santa Cruz

B.A. Computer Science

Santa Cruz, CA

Sep. 2022 – Mar. 2026

Harvard Business School Online

Certificate, Financial Accounting

Remote

Sep. 2026

EXPERIENCE

Founder & Software Engineer

Nov. 2024 – Present

Social Valley (React Native, Supabase, Stripe)

Remote

- Built and launched a **competitive skill-challenge platform** where users enter contests for real prize money; live on the **web and the iOS App Store**.
- Designed a **60+ table PostgreSQL schema** with **Row-Level Security** supporting escrowed prize pools, livestreaming and real-time messaging.
- Integrated **Stripe** payments and an **ELO-based ranking system**; instrumented the product with PostHog, Sentry, Google Analytics, RevenueCat and Resend.
- Lead go-to-market and fundraising, including the public launch and outreach to seed-stage investors; advanced to the **a16z Alpha Fellowship** (Founder Track) interview round.

Associate Software Engineer

Jun. 2021 – Present

Milay Mechanical, LLC

Hayward, CA

- Engineered custom CNC machinery software, achieving a **50% reduction in annual costs (\$50K)** and increasing production throughput by **20%**.
- Built a **C++ data management system** for job and labor tracking, improving labor tracking by **30%** and cutting job errors by **40%**.
- Developed a **web dashboard** showing real-time operational metrics to management, and designed the company's cloud infrastructure and document-management architecture.

RESEARCH & PROJECTS

Privacy-Preserving Encrypted Search | *Research with Prof. Ioannis Demertzis, UCSC*

Jan. – Mar. 2026

- Combined two published privacy systems, **SEAL** (encrypted search with adjustable leakage) and **SPARTA** (traffic-analysis resistance), into one **10-module Python system** (SQLite backend) that hides both which records a query touches and when its results arrive.
- Wrote **attack simulations** (query recovery, database recovery, traffic correlation) and ran parameter sweeps on the Chicago Crime dataset to measure the privacy vs. overhead trade-off.
- Showed that with both layers enabled, an adversary who sees all network traffic and the plaintext data distribution cannot recover queries or link users to records better than a **greedy baseline attack**.

Sample Sort (*Python, Flask, Electron, scikit-learn, librosa, GitHub Actions*)

Jun. – Jul. 2025

- Built a desktop app that classifies drum samples by instrument with a **Random Forest** model at **86% accuracy**, using spectral feature extraction.
- Wrote an **asynchronous Flask backend** that parallelizes audio processing and model inference for large sample libraries.
- Set up a **CI/CD pipeline** in GitHub Actions for automated macOS, Windows and Linux builds.

SKILLS

Languages: Python, C++, C, JavaScript, SQL (PostgreSQL, SQLite)

Frameworks: React Native, Expo, Node.js, Express.js, Flask, Electron

Data & ML: Pandas, scikit-learn, librosa, Jupyter, MATLAB

Cloud & Tools: Supabase (Postgres, Auth, RLS), Vercel, Cloudflare, Firebase, Git, GitHub Actions, Linux, Bash

APIs & Analytics: Stripe, RevenueCat, PostHog, Sentry, Google Analytics, Mixpanel, Resend, SendGrid, Google Maps