

Manuel Sabin, Ph.D.

San Francisco, CA | (916) 496-6413

[msabin.github.io](https://github.com/msabin)
msabin27@gmail.com

Select Experience

Melengo, **Research Engineer**

Oct 2024 - Present

Fashion design and manufacturing platform

- Built fullstack GenAI image-to-image pipeline for generating arrays of clothing options from fashion inspiration images using ChatGPT and Flux APIs in a Next.js framework
- Built backend Python pipeline to extract sized and arrangeable sewing pattern SVGs from PDFs, and used Modal to attach a clean drag-and-drop UI frontend

Lycalopex Fellowship, **Software Engineering Fellow**

Jun 2024 - Jul 2024

Competitive paid fellowship to contribute to the official Go cryptography library

- Created the new [cryptotest package](#) introducing reusable testing suites for Go's crypto library
- Merged a testing suite for each interface of Go's 5 core secret-key primitives in 5 weeks, spanning 60+ tests
- Caught a security bug in the CTR mode stream cipher that my tests uncovered and filed an [issue](#)

Recurse Center, **Software Engineer in Residence**

Aug 2023 - Oct 2023

A self-directed residency for software engineers (from juniors to CTOs) to collaborate and hone their craft

- Built interactive [DSP web apps](#) with React and WebMIDI/WebSockets and [music software](#) with Python
- Initiated & led weekly workshops on dev tooling, web accessibility and WCAG 2.1 compliance (47% increase in Lighthouse scores across projects), and ran sprints for bite-sized web projects for a team of 7

EduExplora, **Instructor and Program Creator**

May 2023 - Jul 2023

UC Berkeley STEM Summer outreach program for exceptional high school students from Latin America

- Created & taught an Introductory Python course on Object-Oriented design and physics simulations
- Coached 30 student developers on utilizing documentation, debugging, and pair programming

Skills: C, CSS, Express.js, Figma, git, Go, HTML, Java, JavaScript, Linux, MATLAB, MySQL, Node.js, Postgres, Python, R, React.js, Sass, socket.io, Tailwind, TypeScript, Unix, WebAudio, WebMIDI, WebSocket

Academic Career Highlights

Impact: Published first provably secure Proofs of Work. Contributed security-critical features to the Go standard library. Published in top Crypto, CS Theory, and ML conferences (ALT, CRYPTO, STOC) with ~375 citations.

Leadership: Organized workshops (~800 attendees) and served on panels and publishing committees at premiere ML venues (CVPR, FAccT*, ICML, NeurIPS). Secured ~\$160K grant for Cryptography research.

Communication: Invited to present my work at 20+ venues (e.g. MIT, Stanford, UC Berkeley). Interviewed by media outlets (e.g. MIT Tech Review, Nature, & was a prominently featured expert in Simons Institute short film).

Education

UC Berkeley, **PhD Computer Science**

Aug 2020

CSU Sacramento, **BA Math & CS; Minor in Statistics** (*Commencement Speaker*)

May 2014