

# Jason Yu

New York, NY | +1.510.299.4353 | [jasontech1998@gmail.com](mailto:jasontech1998@gmail.com) | [LinkedIn Profile](#) | [GitHub](#) | [Website](#)

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## EDUCATION

### University of California, Santa Cruz – Baskin School of Engineering

Bachelor of Science, Technology Information Management

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## WORK EXPERIENCE

### Roebling

San Francisco, CA/Remote

#### Founding Software Engineer

Apr. 2025 – Present

- One of two founding engineers who built Roebling — an AI-powered process modeling platform for biotech and chemical engineering — from an empty repository to a production SaaS product serving process engineers. Architected and own the entire frontend (Next.js, TypeScript, Supabase, Python), shipping 200+ PRs and 170K+ net lines of production code.
- Built interactive visual graph editors with React Flow — typed connections, auto-layout, undo/redo, and drag-to-reconnect — powering the core product experience used by process engineers daily.
- Designed and built an integrated AI chat experience for engineering editors — resizable sidebar with canvas viewport auto-panning, streaming responses, animated plan cards, and persistent conversation state across sessions.
- Architected a schema-driven rendering system for AI-generated analysis dashboards that auto-renders charts, tables, and cost breakdowns from typed JSON contracts without per-dashboard code.
- Built AI-powered automation infrastructure: a two-Lambda ticket triage system (Claude/Bedrock, HMAC webhook security) that reduced bug investigation time by 3x, and a nightly post-merge bug scanner that posts risk-sorted findings to Slack.
- Pioneered MCP (Model Context Protocol) adoption across the team — configured tiered database access controls, wrote documentation, built 12 custom AI agent skills, and mentored engineers on AI-native development workflows.
- Designed a custom Git-like version control system (branching, merging, drafts, checkpoints) for collaborative engineering documents on PostgreSQL, enabling real-time multi-user editing with conflict-safe autosave.
- Built a real-time collaboration layer using Supabase Realtime — designed a generic subscription factory hook and 7 domain-specific hooks powering live updates across files, blocks, projects, and equipment for concurrent multi-user editing.
- Engineered a full-stack structural diff engine (Python + React) for nested engineering documents with cross-reference-aware warnings, backed by 39 tests.
- Created a 55+ component design system with light/dark theming, animation, and domain-specific UI patterns (equation editors, formula fields, stream visualizations).
- Built the entire E2E testing infrastructure from scratch: 42+ Playwright tests across 6 phases, full-stack CI with Docker, and release-gating on production deployments.

### EAB

Washington, DC/Remote

#### Software Engineer

Jan. 2021 – Aug. 2024

- Contributed to the development of a new native mobile experience using Ionic framework, successfully migrating critical features from the legacy app while maintaining agility in an evolving development landscape.
- Engineered a versatile custom Filter List component, resulting in a 70% reduction in development time for four key features, significantly accelerating the app's overall development lifecycle.
- Led visualization library upgrade impacting 5,000+ product users, resulting in 40% faster rendering time and expanded data visualization capabilities.
- Revamped component library styling system with CSS variables and SCSS, reducing theme customization time by 70% and standardizing styles across 50+ components.
- Developed a cross-product accessibility tool that improved WCAG compliance by 85% across 3 products, enabling access for 5,000+ users with disabilities and reducing legal compliance risks.

## Projects

### FestiFaves

- Built festival music discovery app leveraging OpenAI & Spotify API to analyze lineups and generate Spotify playlists with Next.js and NextAuth, combining passion for music and ML.
- Engineered seamless festival poster upload and processing system using AWS S3 and modern React patterns, enabling intelligent playlist generation.

### LikeMix

- Developed music sharing tool with Next.js and TypeScript that automates Spotify album track sharing, integrating Spotify API and NextAuth for seamless authentication.
- Built intuitive UI with React and Tailwind CSS, deployed on Vercel with automated CI/CD pipeline for rapid feature iterations.

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## SKILLS

TypeScript, JavaScript, React, Next.js, Tailwind CSS, Framer Motion, Redux Toolkit, RTK Query, React Flow, Supabase, PostgreSQL, Playwright, Python, FastAPI, AWS Lambda, GitHub Actions, Shadcn/Radix, HTML, CSS, Node.js, Git, Figma, Vercel, Firebase, Ionic, Material UI, Generative AI, LLMs, CI/CD, REST APIs, Real-time Systems, WebSockets, Design Systems