

## Professional Experience

### Dirac · Lead Software Engineer

Apr 2024 — Jan 2025

- Spearheaded a complete overhaul of the company's flagship React application, replacing a monolithic, unmaintainable codebase with a modern, modular architecture featuring TypeScript, Redux Toolkit, Vite, and TailwindCSS.
- Designed a high-performance tree data structure central to tracking project data against uploaded CAD files, where parts are arranged hierarchically. Built a virtualized, highly responsive tree component supporting drag-and-drop, multi-select, and seamless manipulation on both the React side (optimistically) and the Go server. Reduced app load times by over 90% through lazy-loading optimizations.
- Played a key role in designing data schemas, system architecture, and API contracts for file uploads, exports, path planning, sequencing, Redis caching, and DynamoDB storage.
- Integrated gRPC with RTK Query, innovating client-server communication for robust, scalable APIs; collaborated with the backend team to design distributed microservices in Go and Python, leveraging protobufs and gRPC for efficient data synchronization.
- Standardized engineering practices, introducing ESLint, comprehensive unit testing, and TypeScript configurations, improving code quality and maintainability across the stack.
- Led hiring and onboarding efforts, conducting 50+ technical interviews, establishing hiring frameworks, and growing the team from 5 to 10+ engineers.
- Contributed 150k+ lines of production code, shaping the app's core features, infrastructure, and aesthetic vision while mentoring team members and driving engineering decisions.

### Flexe · Software Development Engineer

Feb 2022 — Nov 2023

- Revamped the user experience of the Android mobile app for the warehouse management system, implementing modern, responsive designs that improved performance and usability.
- Collaborated with the UX team to deliver an enhanced picking system, error messaging, and metadata-rich interfaces, driving alignment between design and functionality.
- Self-taught Android Kotlin development to overhaul the mobile app, becoming the primary developer and a knowledge resource for mobile-related tasks.
- Supported backend API development and migration efforts, maintaining and enhancing services in Ruby on Rails and Kotlin.

### Boeing · Software Engineer

Nov 2020 — Feb 2022

- Automated data aggregation and reporting processes for manufacturing teams, reducing daily manual workload by 30-45 minutes per lead using a Python-based tool.
- Independently designed and implemented a scraper to integrate data from the project lifecycle management software, the manufacturing execution system, and scheduling tools, creating a comprehensive project tracking system.
- Secured cross-departmental adoption of the tool, collaborating with IT and product management to scale deployment across the El Segundo location.

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## Projects

### Drumhaus

Sep 2023 — Nov 2023

A browser-controlled drum sampler and sequencer crafted with Tone.js and Next.js, featuring curated sample kits, customizable presets, and a sequencer for crafting dynamic loops, enriched with advanced audio processing capabilities, interactive input knobs, and link-based sharing functionality.

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## Education

### Loyola Marymount University · Undergraduate Degree

Sep 2016 — May 2020

Bachelors of Science in Mechanical Engineering