Max Fung

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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.
- Pioneered a novel Node-based data structure to unify disparate workflows, enabling seamless transitions between views and reducing app load times by over 90% through lazy-loading optimizations.
- Built a custom, high-performance tree component for visualizing complex project data, supporting drag-and-drop, multi-select, and virtualized rendering for thousands of nodes.
- Standardized engineering practices, introducing ESLint, comprehensive unit testing, and TypeScript configurations, improving code quality and maintainability across the stack.
- Integrated gRPC with RTK Query, innovating client-server communication for robust, scalable APIs; mentored team members in front-end and back-end best practices.
- Led hiring and onboarding efforts, conducting 50+ technical interviews, establishing hiring frameworks, and growing the team from 5 to 10+ engineers.
- Collaborated with the backend team to design distributed microservices in Go and Python, leveraging protobufs and gRPC for efficient data synchronization.
- 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.

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.

Education

Loyola Marymount University · Undergraduate Degree   Sep 2016 — May 2020

Bachelors of Science in Mechanical Engineering