# Alexander Su

Senior Software Engineer | Senior React Native Engineer

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## PROFILE SUMMARY

- Senior Software Engineer with deep experience in **React Native**, **TypeScript**, and cross-platform mobile development, contributing to large-scale products at **Yahoo**, **ChargePoint**, **Pear Therapeutics**, and **Walmart Global eCommerce**.
- Skilled in building fast, maintainable architectures using **Redux Toolkit**, **Context API**, and modern data layers powered by **REST** and **GraphQL** services.
- Experienced in end-to-end delivery pipelines through **Bitrise**, **GitHub Actions**, and **Fastlane**, supporting continuous testing, deployment, and over-the-air updates.
- Proficient in backend collaboration with **Node.js**, **Express**, and databases such as **PostgreSQL**, **MongoDB**, and **MySQL**, applying **Redis**, **Kafka**, and **Memcached** for performance tuning.
- Integrated **AI and machine-learning modules** using **Python**, **Flask**, **PyTorch**, and **TensorFlow Lite** to add intelligent user interactions and contextual features.
- Hands-on with monitoring and optimization tools including **Flipper**, **Firebase Analytics**, **Sentry**, and **Xcode Instruments** for stability, profiling, and debugging in production.
- Focused on clean code practices, efficient delivery, and building dependable systems that scale across teams and platforms.

## PROFESSIONAL EXPERIENCE

**Yahoo**                                                                February 2025 - September 2025

*Senior Software Engineer*

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**Technologies:** React Native, Expo (EAS Build, OTA Updates), TypeScript, JavaScript, Redux Toolkit, Context API, React Navigation 6, Hermes, SQLite, AsyncStorage, Node.js, Express.js, REST API, GraphQL, PostgreSQL, MongoDB, Redis, Memcached, Python, Flask, PyTorch, TensorFlow Lite, Firebase (FCM, Remote Config), APNs, LaunchDarkly, Jest, Detox, React Native Testing Library, Bitrise, GitHub Actions, Fastlane, Segment, Snowplow, Flipper, Xcode Instruments, Android Profiler, Reanimated 3, Gesture Handler 2, react-intl, WCAG 2.1, AWS Lambda, S3.

- Led mobile modernization for **Yahoo Mail Next**, building a unified React Native codebase to deliver a consistent, high-performance experience across iOS and Android.
- Re-engineered the rendering layer using the **React Native Fabric renderer**, improving UI responsiveness and enabling concurrent rendering for dynamic inbox layouts.
- Developed and integrated **TurboModules** to expose native APIs for file system access, biometric authentication, and secure attachment handling.
- Prototyped and deployed early builds through **Expo** for rapid iteration, using **Expo EAS Build** and **OTA updates** to streamline internal testing and beta delivery.
- Built an **offline-first mail system** with **SQLite**, **AsyncStorage**, and background task scheduling, ensuring message availability and synchronization during connectivity loss.
- Developed **RESTful APIs** in Node.js and Express for mailbox operations, authentication, user preferences,

and analytics events, implementing caching layers with **Redis** and **Memcached** for high throughput.

- Designed and integrated **GraphQL schemas and mutation workflows** to support incremental sync, attachment management, and message reconciliation, optimizing data retrieval across microservices.
- Optimized message rendering using **React Suspense**, **VirtualizedList**, and **Hermes**, reducing startup latency and improving scroll fluidity for large inboxes.
- Created a shared **state management layer** with **Redux Toolkit** and **Context API**, maintaining consistent data across Mail, Calendar, and Notification modules.
- Implemented the **navigation structure** with **React Navigation 6**, adding deep linking, nested routes, and gesture-based transitions between app sections.
- Integrated **Python Flask microservices** serving **PyTorch** and **TensorFlow Lite** models for **AI-powered smart replies** and **mail categorization**.
- Built **Node.js + Express** middleware connected to **PostgreSQL** and **MongoDB**, caching responses via **Redis** and **Memcached** to improve fetch performance.
- Delivered **push notifications** with **Firebase Cloud Messaging (FCM)** and **Apple Push Notification Service (APNs)** for real-time inbox synchronization.
- Automated build and deployment pipelines through **Bitrise**, **GitHub Actions**, and **Fastlane**, coordinating environment-based configurations and Expo builds for TestFlight and Play Console.
- Set up **comprehensive testing** with **Jest**, **React Native Testing Library**, and **Detox**, integrated into CI workflows for regression prevention.
- Created **feature flag and experimentation systems** with **LaunchDarkly** and **Firebase Remote Config**, allowing targeted rollouts of new UI components.
- Enhanced **accessibility and theming** using **Reanimated 3**, **Gesture Handler 2**, and compliance with **WCAG 2.1** guidelines for an inclusive UI.
- Collaborated on **GraphQL Federation** and **API Gateway** integration to unify services and minimize client-side overfetching.
- Instrumented **analytics pipelines** using **Segment SDK** and **Snowplow**, feeding structured events to Yahoo's internal data systems.
- Utilized **Flipper**, **Xcode Instruments**, and **Android Profiler** for advanced debugging and memory inspection, developing custom Fabric plug-ins for runtime tracing.

## ChargePoint                                                    July 2023 – February 2025
*Senior React Native Engineer*

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**Technologies**: React Native, Expo (EAS Build, OTA Updates), TypeScript, JavaScript (ES2023), styled-components, Redux Toolkit, Context API, Node.js, GraphQL, ChargePoint Open API, OCPP, PostgreSQL, OAuth2, SecureStore, AsyncStorage, Jest, React Native Testing Library, Detox, Fastlane, GitHub Actions, Firebase Analytics, Sentry, React Native Debugger, Flipper, Metro Bundler, WCAG 2.1.

- Developed the **ChargePoint Mobile Platform**, a React Native application that allows drivers and businesses to locate, reserve, and manage electric vehicle (EV) charging stations in real time.
- Set up the React Native development environment with **Node.js**, **React Native CLI**, **Xcode**, and **Android Studio**, and integrated **Expo** for simplified testing, OTA updates, and CI workflows.
- Built the app's **UI architecture** using **React Native** and **TypeScript**, creating reusable components aligned with ChargePoint's in-house **design system** and **shared React component library** for cross-platform consistency.
- Implemented **styled-components** and **custom theming utilities** to establish a scalable styling framework that supported both dark mode and accessibility preferences.

- Created **real-time charging session dashboards** and **usage statistics** screens that connected to backend services through **ChargePoint Open API** and **GraphQL**, displaying live data from multiple charging stations.
- Integrated **Open Charge Point Protocol (OCPP)** communication modules through **Node.js services**, enabling reliable data exchange between the app and diverse EV hardware systems.
- Developed in-app **authentication and session management** using **OAuth2**, **SecureStore**, and **AsyncStorage**, ensuring secure access and persistent state across sessions.
- Optimized app performance using **lazy loading**, **code splitting**, and **FlatList virtualization** to handle large station datasets efficiently.
- Built **custom hooks** and **context providers** to manage user preferences, favorite stations, and transaction history across multiple modules.
- Established a **comprehensive testing pipeline** with **Jest** for unit testing, **React Native Testing Library** for integration coverage, and **Detox** for automated end-to-end validation on physical devices.
- Utilized **Expo EAS Workflows** for automated builds, testing, and deployments, incorporating **Fastlane** and **GitHub Actions** to manage CI/CD pipelines for both staging and production environments.
- Delivered **over-the-air (OTA) updates** using **Expo Updates**, reducing downtime and enabling rapid bug fixes without requiring App Store resubmissions.
- Integrated **error tracking and analytics** through **Sentry** and **Firebase Analytics**, capturing runtime issues, session behavior, and retention metrics.
- Collaborated with backend and IoT teams to connect the mobile client to **building management systems (BMS)** for enterprise-level energy monitoring and automated station control.
- Built **developer tools** and custom **debug menus** using **React Native Debugger** and **Flipper**, simplifying device-level testing during field deployments.
- Improved app startup time and bundle size through **Metro configuration tuning**, **image optimization**, and preloading key assets at runtime.
- Maintained compliance with **WCAG accessibility standards**, supporting voice-over navigation, large text scaling, and screen-reader testing.

## Pear Therapeutics

*Senior Software Developer*                                         January 2021 – April 2023

*Software Developer*                                              April 2019 – December 2020

[app store(RESET)](#) | [app store(RESET-O)](#)

**Technologies:** React Native, TypeScript, JavaScript, React Hooks, Node.js, Firebase (Auth, Firestore, Cloud Messaging), Microsoft App Center SDK, AsyncStorage, Jest, React Native Testing Library, Redux, AWS Amplify, REST APIs, Python (AI microservices), WebXR, React 360, Fitbit SDK, Garmin SDK, Kotlin, Swift, Java, JSON Schema Validation, HIPAA/FDA Compliance.

- Developed and maintained Pear's **FDA-cleared digital therapeutics apps**, including **reSET**, **reSET-O**, and **Somryst**, built on **React Native** and **TypeScript** for both iOS and Android platforms.
- Refactored the codebase from legacy JavaScript into **TypeScript**, introducing strict type definitions and modular architecture to improve code safety, debugging, and test coverage.
- Designed reusable **React Hooks** and component patterns for patient onboarding, daily therapy modules, and clinician dashboards, standardizing UI behavior across all therapeutic products.
- Integrated **Firebase** (Auth, Cloud Messaging, Firestore) through the **react-native-firebase** library to handle secure authentication, encrypted cloud storage, and HIPAA-compliant push notifications.
- Built **data synchronization layers** to store therapy progress locally with **AsyncStorage**, syncing securely

with back-end APIs during connectivity recovery.

- Implemented **Microsoft App Center SDK** for automated crash reporting, device analytics, build distribution, and CI/CD pipelines, ensuring stable releases for regulatory testing and pilot programs.
- Collaborated with backend engineers using **Node.js** and **TypeScript** microservices to connect the mobile client with the core Pear platform, focusing on reliable API communication and JSON schema validation.
- Integrated **custom native modules** written in **Kotlin**, **Swift**, and **Java** to extend React Native functionality for device sensors, biometric data collection, and secure system-level operations on both Android and iOS.
- Integrated **wearable device SDKs** like Fitbit, Garmin to capture physiological and activity metrics for patient engagement modules and clinician reporting dashboards.
- Prototyped **voice-based cognitive biomarker experiments**, integrating Python-based inference APIs to analyze speech data and surface insights within the app interface.
- Supported an experimental **multi-user VR peer-support platform**, extending React Native components into 3D prototypes using early **React 360** and **WebXR** APIs.
- Led migration to modern **testing frameworks** with **Jest** and **React Native Testing Library**, improving regression detection and increasing confidence in FDA submission builds.
- Worked closely with compliance teams to maintain **HIPAA** and **FDA 21 CFR Part 11** standards across all mobile releases, validating builds through internal QA pipelines and App Center automation.

## Walmart eCommerce Global                                      August 2016 – April 2019
*Software Developer*

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**Technologies:** React Native, JavaScript (ES6), Node.js, Express.js, MySQL, MongoDB, Kafka, Elasticsearch, Spring, Mocha, Chai, Enzyme, Sinon, react-native-mock, Rewire, Redux.

- Contributed to the **Walmart Mobile Shopping App**, building and maintaining React Native components for product listings, checkout flow, and user profile management using **JavaScript** and **React Native CLI**.
- Collaborated with backend developers using **Node.js** and **Express.js** to connect the mobile front-end to real-time product APIs backed by **MySQL** and **MongoDB**.
- Implemented **search and recommendation features** by consuming indexed data from **Elasticsearch** and event-driven streams from **Kafka**, improving product discovery and personalization.
- Wrote **unit and integration tests** with **Mocha**, **Chai**, and **Enzyme**, using **react-native-mock** and **Rewire** to simulate device-level behavior during local and CI testing.
- Participated in optimizing app performance by profiling API latency, reducing bundle size, and improving rendering efficiency on large catalog views.
- Supported cross-team efforts to integrate secure order tracking and payment workflows through **Spring-based microservices**, ensuring stable and compliant mobile transactions.

## SKILLS

- **Programming & Frameworks:**
  React Native, React, Expo (EAS Build, OTA Updates), TypeScript, JavaScript (ES2023), Node.js, Express.js, Redux Toolkit, Context API, React Hooks, React Navigation 6, styled-components, Reanimated 3, Gesture Handler 2, React Suspense, VirtualizedList, WebXR, React 360, REST API, GraphQL
- **Mobile Development & Integrations:**

Kotlin, Swift, Java(Native Module Integration), Firebase (Auth, Firestore, Cloud Messaging, FCM, Remote Config), Microsoft App Center SDK, SecureStore, AsyncStorage, SQLite, OAuth2, APNs, LaunchDarkly, Bitrise, Fastlane, GitHub Actions, TestFlight, Google Play Console, AWS Amplify, AWS Lambda, S3

- **Backend & Databases:**
  PostgreSQL, MongoDB, MySQL, Redis, Memcached, Kafka, Elasticsearch, OCPP, ChargePoint Open API, Python, Flask, PyTorch, TensorFlow Lite, JSON Schema Validation, Spring
- **Testing & Quality Assurance:**
  Jest, React Native Testing Library, Detox, Mocha, Chai, Enzyme, Sinon, react-native-mock, Rewire, App Center CI/CD, QA Automation, Regression Testing
- **DevOps & CI/CD Pipelines:**
  GitHub Actions, Bitrise, Fastlane, Jenkins, Expo EAS Workflows, App Center Build & Distribution, OTA Updates, Feature Flags, A/B Testing
- **Performance & Debugging Tools:**
  Flipper, Xcode Instruments, Android Profiler, React Native Debugger, Metro Bundler, Firebase Analytics, Sentry, Segment, Snowplow, New Relic, Crashlytics
- **AI, Data & Machine Learning:**
  PyTorch, TensorFlow Lite, Python (AI microservices), Voice Biomarker Processing, Data Analytics Pipelines, ML-based Smart Reply Systems
- **UI/UX & Accessibility:**
  Custom Component Libraries, Theming Systems, Dark Mode, styled-components, WCAG 2.1 Compliance, Dynamic Theming, Gesture Animations, Localization (react-intl)
- **Software Practices & Methodologies:**
  Agile Development, Continuous Integration, Code Review, Type Safety (TypeScript), Modular Architecture, HIPAA & FDA Compliance, Cross-Functional Collaboration, Mobile App Optimization

## EDUCATION

**Bachelor of Science** in Civil Engineering, University of California, Davis, 2013