

KARN SAHEB

karn.io | hello@karn.io | github.com/karn | linkedin.com/in/karnsaheb

RECENT EXPERIENCE

Notion Labs, Inc — *Software Engineer (Android)* *Dec. 2020 - Present*

- Developing new product features for the Android app, improving application stability, performance, and reliability.

Facebook, Inc — *Software Engineer (Android)* *Aug. 2020 – Oct. 2020*

- Worked on the Visual Messaging Team (Messenger/Instagram) which focused on improving photo/video reliability and shipping new product experiences such as “selfie” stickers.

TextNow, Inc — *Platform Developer* *May 2019 – Aug. 2020*

- Used Terraform to provision VoIP applications such as OpenSIPs and FreeSWITCH on AWS cloud infrastructure to support the Calling Platform which services millions of calls/day. Migrated to a simpler and more scalable architecture and built applications for extensibility to support new features such as call-merging & conferencing.
- Re-designed legacy VoIP-related Ruby microservices by using GoLang; completed projects yielded CPU/Memory performance savings of over 30% and a reduction in inter-service latency of ~90ms.
- Involved in and lead architecture discussions on the next iteration of the Calling Infrastructure to prepare for geographical distribution, auto-scaling, and driving quality of experience metrics to improve baseline audio quality.

Insights for Instagram — *Android Developer* *Feb. 2018 – Aug. 2020*

- Developed a 3rd party Android application for Instagram, which aimed to provide user relationship management, ML-powered hashtag recommendations, and tools to improve overall content engagement. Maintained a 4.2+ star rating, 99.8% crash free sessions, and reached >65k DAUs, >350k MAUs, and achieved >2.4 million downloads.
- Written in Kotlin with the Model-View-Intent pattern to leverage a unidirectional flow and enforce strict separation of concerns with respect to views, entities, persistence/networking. Notable libraries used include Epoxy (UI), Room/Realm (persistence), Firebase (analytics, crash reporting, A/B tests, ML), RxJava (threading/observables).

TextNow, Inc — *Android Developer (Co-op)* *May – Aug. 2018*

- Improved application performance by addressing native crashes and ANR's in native VoIP stacks through threading optimizations, modularization of code, and increased unit and integration test coverage; contributed to improved user call ratings by approx. 20% and decreased calling related crashes/ANRs per session by over 2%.
- Supported the design/development of in-house SIP stack written in C++ with shared interfaces into Android/iOS apps; defined project/feature requirements and milestones, and performed initial implementation & testing.

Studybuddy, Inc — *Co-Founder, Android/Backend Developer* *Mar. 2016 – Nov. 2017*

- Implemented payment, notification, and session management APIs for our location-based tutoring service.
- Developed the Android client application (Java/Kotlin) to interact with the above API and leveraged the Firebase Realtime Database to back a reactive UI which observed database changes to provide on-demand, location-based pairing of nearby tutors and students. as well as session and payment management.

TextNow, Inc. — *Android/Platform Developer (Co-op)* *May – Aug. 2017*

- Built a Python data collection service to collect VoIP reliability/quality metrics of 200+ concurrent calls and coalesce data into reports based on RFC-6076 SIP-Metrics. Created a CLI tool to execute parallel commands on numerous Android devices using ADB sockets to collect metrics which were ingested by the data collection service.

TextNow, Inc. — *Android Developer (Co-op)* *May – Aug. 2016*

- Lead a project to re-design various quality of service indicators to improve the performance of patented ‘Elastic Calling’ in poor network conditions which resulted in the reduction of handover time by ~2s and improvements to the frequency at which the client was able to successfully detect poor network scenarios via Android Network APIs.

RECENT PROJECTS

Notify — Collapsed standard Notification APIs into an easy to use Fluent interface written in Kotlin which masks the complex notification compatibility hurdles (e.g. Notification channels, Styles); 640+ Stars on GitHub.

Instagram SDK — 3rd party Instagram SDK which abstracts API requests to retrieve profile/feed data from Instagram.

Sentry — Leverages Kotlin Delegates to provide a lightweight (21KB) abstraction to request Android permissions.

Charter — Another chart library for Android; Uses a custom view to generate line charts given an array of datapoints.

EDUCATION

University of Toronto – *BSc. Statistics, Computer Science, and Mathematics.*

2014 – 2019