

KARN SAHEB

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RECENT EXPERIENCE

TextNow, Inc – *Android Developer*

May – Aug. 2018

- Improved application performance by addressing native crashes and ANR's in native SIP (VoIP) stacks through Clean Architecture principles and rigorously tested modular code; lead to improved user call quality by approx. 20% and decreased calling related crashes/ANRs per session by over 2%.
- Further developed Android Instrumentation and Unit Tests for SIP modules to ensure that functionality changes correctly satisfied the constraints of the many complex calling scenarios.
- Involved in design and development of in-house SIP stack written in C++ with corresponding interfaces into Android and iOS applications. The process included outlining project and feature requirements, development scope and milestones, as well as initial implementation and testing.

Studybuddy, Inc – *Co-Founder, Full Stack Developer*

Mar. 2016 – Nov. 2017

- Designed and implemented scalable API (REST), notification, and session infrastructure for a location-based tutoring service. Written in TypeScript with Node, Firebase, Express, and *Bonfire* (in-house session scheduling service). Leveraged TravisCI for code quality and OpenShift for containerized deployment strategies.
- Built accompanying Android application (Java/Kotlin hybrid) which leveraged a Firebase Database to provide on-demand, location-based pairing of nearby tutors and students, as well as session and payment management.
- Created a design system for Android and iOS client applications, designed marketing material, and conducted usability and A/B tests to encourage data-driven product decisions.

TextNow, Inc. – *Android/Platform Developer*

May – Aug. 2017

- Implemented a large-scale Python data science platform to collect VoIP-call reliability and quality-over-time metrics of 200+ concurrent calls and coalesce data into reports based on RFC-6076 SIP-Metrics.
- Leveraged gRPC and ADB IP routing to build a CLI with a master-slave pattern to execute commands simultaneously on numerous Android devices and collect metrics which were then fed into data science platform.

TextNow, Inc. – *Android Developer*

May – Aug. 2016

- Lead project to re-architect various quality of service indicators to improve the performance of Network handovers in poor network conditions. Now part of the 'Elastic Calling' feature used by over 30k users.
- Optimized dynamic network transition functionality to reduce transition delay time reduced from a minimum of 5s to maximum 3s – lead to increased call-quality satisfaction metrics.

RECENT PROJECTS

Insights – *Analytics and engagement tools powered by ML*

- Designed and developed a 3rd party ML-powered Android application for Instagram, which aims to provide data-driven hashtag recommendations and tools to improve content engagement.
- Maintains a 4.2-star rating with 12k DAUs, 103k MAUs, and 99.5% crash free users. Written in Kotlin with the Model-View-Intent pattern and Realm, Firebase (Analytics, Crash Reporting, A/B Tests, ML) and Rx libraries.

Notify – *Open source Android notification library*

- Collapsed standard Notification APIs into an easy to use Fluent interface written in Kotlin which masks the complex compatibility hurdles that make rapid development difficult (e.g. Notification channels, Styles).
- Extremely extensible and designed to allow for seamless transitions between Notify notification types and Android system notification types for maximum interoperability. Currently has over 400 stars on GitHub.

EDUCATION

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

Sept. 2014 – Present