Eric Chang

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Education

UC San Diego

BS Computer Engineering
Sep 13 – Mar 17
GPA: 3.42

Skills

Languages

C • C++(17) • Java • HIDL
Python • JavaScript • SQL

Tools & Frameworks

Android • Spring • Bootstrap
Git • Gerrit • Google Test

Experience

Qualcomm — San Diego, CA

Data Protocol Stack Software Engineer — Jul 17 – Current

- End to end delivery of new networking and connectivity features for Android system services and native daemons, from design to commercialization on millions of devices.
- Contributing to Android Connectivity modules which include Connectivity Engine (CNE), Radio Interface Layer (RIL), and IP Multimedia Subsystem (IMS).
- Providing support for bugs reported in Android's Connectivity and Telephony stacks, which requires debugging through all layers of Android platform.
- Redesigned and implemented a new RIL API for switching SIM preference on dual-SIM phones with significantly reduced complexity with the use of hierarchical state machines and modular design. The new API enhances multi-SIM capabilities on Android Q.
- Supported the launch of one of the world's first 5G phones by introducing an API to provide real-time updates on radio resource control across different processors using the hardware abstraction layer (HAL).
- Optimized the sequence for establishing emergency data calls to prioritize emergency calls going through IMS and GPS. The new sequence makes establishing emergency calls more robust in certain scenarios and is now used to send GPS location to the dispatcher and to support IMS calls for VoWifi, VoLTE, Video Telephony, etc.
- Independently developed and released an Android app that retrieves SSL certificates updated from Google's servers for Qualcomm proprietary modules. This app is currently used when establishing secure connections for GPS, VoWifi (Wifi calling), and modem SSL on nearly all new Android devices.

Software Engineering Intern — Jun 16 – Sep 16

- Enabled Visual Studio compilation of the RF card for unit testing. This increases productivity for RF device engineers by reducing build times from 40 minutes down to 5 minutes and integrates the RFC module with Visual Studio IDE.
- Wrote a unit test suite for automating RF card bootup on 15 operators.

Calit2 — La Jolla, CA

Research Intern — Apr 16 – Jun 16

- Participated in a Gates Foundation project led by UCSD Medical School professors to provide a reliable form of identification for healthcare in third world countries.
- Implemented autofocus and dynamic resolution control on a Arduino camera.

Kaiser Permanente — Pasadena, CA

Software Development Intern — Jun 15 – Nov 15

- Implemented a pipeline of batch processes for consolidating, validating, and transmitting sensitive membership data from multiple sources into 7 million IRS 1095B tax forms.
- Contributed to back-end development of a web app in Spring Framework used for actuarial and insurance purposes.

Space and Naval Warfare Systems Command — San Diego, CA

Research Intern — Jun 14 – Aug 14

- Implemented a CSMA based MAC protocol in C++ for decentralized underwater networks and provided network simulations on MATLAB.