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 • PHP
Python • JavaScript • SQL

Tools

ADB • Git • Gerrit • Wireshark

Frameworks

Android • Bootstrap • Laravel
Google Test • Node.js • Spring

Experience

Qualcomm — San Diego, CA

Data Protocol Stack Software Engineer - Android — Jul 17 – Current

- End to end delivery of advanced networking, connectivity, and telephony features for Android, from design to commercialization on millions of devices.
- Extensive development on multi-threaded, event-driven architectures using message-based and inter-process communication in modern C++ and Java.
- Maintaining the data components of Qualcomm's Radio Interface Layer (QC-RIL) implementation, which supports core Android use cases such as mobile data, MMS, WiFi/video/emergency calling, and multi-SIM mode.
- Supporting Google with Android platform upgrades in Connectivity and Telephony stacks, which spans across several layers of Android architecture.
- Maintaining internal Android apps and tools used to test various networking capabilities.
- Contributed to a large scale re-architecture of Qualcomm's RIL daemon by spearheading the use of modern design principles to break down highly complex scenarios such as mobile data establishment, WiFi-LTE handover, and multi-SIM preference selection.
- Supported the launch of the world's first 5G phone by utilizing the hardware abstraction layer (HAL) to provide radio resource information across different processors.
- Developed an Android app that retrieves SSL certificates for Qualcomm proprietary modules. This app runs as a system service on new Snapdragon devices, used for establishing secure connections for GPS, WiFi calling, and all modem SSL services.

Software Engineering Intern — Jun 16 – Sep 16

- Integrated the RF card with an off-target unit test framework, increasing productivity for RF device engineers by reducing build overhead by 90%.
- Developed a unit test suite for testing RF card bootup on 15 operators, which was later deployed on Jenkins CI.

Qualcomm Institute (formerly 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 in Python for an embedded Arduino camera intended for fingerprint identification on infants.

Kaiser Permanente — Pasadena, CA

Software Development Intern — Jun 15 – Nov 15

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

Space and Naval Warfare Systems Command — San Diego, CA

Research Intern — Jun 14 – Aug 14

- Implemented Seaweb, a CSMA-based MAC protocol for decentralized underwater networks, in C++
- Utilized NS-2 and MATLAB to simulate a machine learning based packet routing protocol over four different MAC protocols, including Seaweb