Bassel Alesh

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WORK EXPERIENCE

5G mmWave Systems Design Engineer September 2018 - Present
Apple Inc. Cupertino, CA

- Developed 5G mmWave validation and calibration software in C++ for a wireless system verification tool that is deployed across hundreds of stations at iPhone 12/12 Pro assembly factories.
- Led the integration of test equipment drivers and libraries from external vendors and helped develop APIs in C++ for our instrument framework.
- Redesigned a critical platform layer by implementing a scalable, object-oriented framework that allowed us to easily introduce new test equipment solutions to all 5G mmWave programs.
- Led all of the 5G mmWave factory stations at the iPhone 12 mini New Product Introduction (NPI) builds.
- Developed APIs that enabled read/write operations from/to the baseband chipset's non-volatile memory.
- Developed a calibration algorithm that leverages factory data and numerical analysis to optimize one of our core hardware tests across multiple stations on the assembly line.

Wireless Systems, Algorithms and Calibration Engineer January 2018 - August 2018
Apple Inc. Cupertino, CA

- Designed the software and hardware for a low-cost, in-house wireless validation solution for NFC products.
- Developed tests and algorithms in C++ for calibration, verification, and signal processing.
- Defined and evaluated system features to accommodate for the timeline and the available hardware resources.
- Collaborated with vendors and cross-functional teams to introduce new features without incurring additional costs.

Digital Hardware Engineering Intern May 2017 - August 2017
Qualcomm Inc. San Diego, CA

- Characterized the layout of a transceiver subsystem as a member of the RFIC Digital Design team.
- Created a testbench using Cadence Virtuoso and RaptorX that simulated signal delays and parasitics.

Product Development Intern May 2016 - August 2016
AT&T Inc. Atlanta, GA

- Developed user-focused IoT solutions for a LTE product to showcase at the launch of AT&T's IoT platform.
- Designed embedded software to collect sensor data and utilize the platform's new developer APIs.

SKILLS

Languages: C/C++, Swift (SwiftUI), Python and MATLAB.

Software: Framer X, Xcode, Flask, ADS, Cadence Virtuoso, EAGLE, HFSS and PSPICE.

PROJECTS

Receipt Splitting App: Designing an iOS app that splits receipts between friends and tracks personal and group totals.

Front Door Buzzer/Doorbell: Developed a HomeKit-integrated solution to control my apartment's front door buzzer.

EDUCATION

Bachelor of Science in Electrical Engineering **GPA: 3.86/4.00**
University of Illinois at Urbana-Champaign August 2014 - December 2017

Honors & Awards

Floyd E. Lundgren Scholarship	2017
Ellery B. Paine Outstanding Junior Award	2017
Electrical and Computer Engineering Visionary Award	2017
James Scholar, Dean's List	2015-2017