Bassel Alesh

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WORK EXPERIENCE

mmWave Systems, Algorithms, and Calibration Engineer — September 2018 - Present
Apple Inc. — Cupertino, CA

- Led the bring-up of OTA millimeter-wave verification stations to deliver precise wireless system performance across millions of products.
- Designed verification software in C++ to characterize prototype hardware in accordance with 5G New Radio 3GPP specifications.
- Supported NPI builds by debugging firmware and hardware issues while optimizing test time to ensure that target yields are met.
- Led the integration of test instrument drivers from external vendors and helped bring-up an in-house verification tool.
- Measured and analyzed antenna array radiation patterns to verify transceiver beam-forming calibration algorithms.

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

- Led the hardware and software development for a low-cost, in-house RF validation solution for NFC products.
- Designed matching networks and mixed-signal hardware to enable signal analyzer and generator capabilities on a RF development board.
- Developed tests and algorithms in C++ for calibration, verification, and RF signal processing.
- Collaborated frequently with external vendors and cross-functional teams to introduce new test features without incurring additional costs.

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

- Worked with the RFIC Digital Design team on testing and characterizing the layout of a transceiver's PLL module.
- Created a testbench using Cadence Virtuoso and RaptorX that simulated signal delays and parasitics between different blocks on the PLL chip.

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

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

SKILLS

Languages: C++, Python, C, MATLAB.
Software: ADS, Cadence Virtuoso, EAGLE, HFSS, PSPICE.
Lab: VNAs, Spectrum Analyzers, Oscilloscopes, and Antenna Chambers.

EDUCATION

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

Relevant Coursework

Data Structures and Algorithms	Wireless Communication Systems
Digital Systems Lab	Analog and Microwave Circuit Design

HONORS & AWARDS

Floyd E. Lundgren Scholarship	2017
Ellery B. Paine Outstanding Junior Award	2017
Electrical and Computer Engineering Visionary Award	2017
ECE 483 (Analog IC Design) Low Dropout Regulator Design - 2^{nd} Place	2017
James Scholar, Dean's List	2015-2017