

# Bassel Alesh

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## WORK EXPERIENCE

**mmWave Systems, Algorithms, and Calibration Engineer**  
*Apple Inc.*

September 2018 - Present  
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**  
*Apple Inc.*

January 2018 - August 2018  
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**  
*Qualcomm Inc.*

May 2017 - August 2017  
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**  
*AT&T Inc.*

May 2016 - August 2016  
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**  
University of Illinois at Urbana-Champaign

**GPA: 3.86/4.00**  
August 2014 - December 2017

### Relevant Coursework

Data Structures and Algorithms  
Digital Systems Lab

Wireless Communication Systems  
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<sup>nd</sup> Place

2017

James Scholar, Dean's List

2015-2017