Joshua T. Ruff

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OBJECTIVE

Seeking an internship in Summer 2019 in the areas of antenna design, electromagnetics, and RF Systems

EDUCATION

Texas A&M University, College Station, TX — *Will Graduate May 2022*

In Progress: PhD - Electrical Engineering, *Focus in Electromagnetics and Microwaves*

- Faculty Advisor: Dr. Gregory Huff

Texas A&M University, College Station, TX — *Graduated May 2017*

Bachelor of Science - Electrical Engineering, *Overall GPA: 3.62*

- Focus in Electromagnetics and Microwaves
- Minor in Mathematics

RESEARCH

Huff Research Group, Texas A&M University

Graduate Research Assistant — *May 2017-Present*

- ***Current Project –*** Developing a near field test and verification system for mmWave phased arrays.
- ***Current Project –*** Modeling origami substrates and RF structures in HFSS using Python.
- Measured a 60GHz phased array in an anechoic chamber.
- Developed Python data processing software to analyze power transfer model.
- Established HFSS cluster computing capabilities for the lab.

Undergraduate Research Assistant — *January 2015-May 2017*

- Created Python scripts to automate modeling a 3-D volumetric random phased array.
- Worked on computer vision system to measure antenna positions for phased arrays.
- Fabricated a polarization reconfigurable antenna.
- Programmed microcontrollers and measured antenna parameters with a network analyzer.

AggiE-Challenge, Texas A&M University — *September 2014-May 2017*

Team Leader

- Assisted a multidisciplinary team of undergraduates in designing a SmartBuoy and water monitor.
- Programmed an Arduino and a Python Server to collect and transmit data.
- Presented Smart Buoy Austin for the Texas State Legislature at the TEES 100th Anniversary celebration.
- Presented both the Smart Buoy and water monitor at the Texas A&M Spring Engineering Showcase.

EMPLOYMENT

Texas A&M AVSI, College Station, TX — *November 2016-Present*

Electrical Engineering Consultant

- Assist in testing effects of WAIC signals on radio altimeters using Huff Research Group lab equipment through the TAMU aerospace department
  - Created automated test bench for measuring interference susceptibility of radio altimeters.
  - Automated generation of waveforms by a vector signal generator using Python.
  - Stored and analyzed test results in SQLite Database using Python.

Texas Instruments, Inc., Tucson, AZ — *June 2016-August 2016*

Applications Engineering Intern

- Used ANSYS Maxwell to simulate magnetic shielding designs.
- Automated FEMM electromagnetic simulations for shielding designs using Matlab.
- Provided applications support for DRV425 magnetic fluxgate sensors.

Lockwood, Andrews & Newnam, Inc., Dallas, TX/ College Station, TX — *May 2015-September 2015*

Engineering Intern

- Updated Panel Schedules for company projects with AutoCAD.

SKILLS

- Experienced in running electromagnetics simulations using ANSYS HFSS and Maxwell 3D.
- Experience with an anechoic chamber, network analyzer, spectrum analyzer, and vector signal generator.
- Programming experience includes: Python, SQLite, Matlab, C++, and various Microcontrollers.

RELEVANT COURSEWORK

ECEN 451 Introduction to Antenna Design
ECEN 638 Antennas and Propagation
ECEN 455 Digital Communications
ECEN 601 Linear Networks Analysis