

Jake Messner

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EXPERIENCE

SKYDIO | RF ENGINEER | MAR 2021 – PRESENT | REDWOOD CITY, CA

- Design, bringup, and troubleshooting of WiFi modules working with transceiver and front end vendors.
- Develop test fixtures and assemblies for RF testing on FATP line.
- Automate conducted emissions testing using Python to control test instruments.

APPLE | RF DESIGN ENGINEER | AUG 2019 – MAR 2021 | INTERN JUL 2017 - DEC 2017 | CUPERTINO, CA

- Wrote specifications for cellular front end modules.
- Troubleshoot and identified root causes of issues for cellular failure analysis.
- Worked with vendors to deliver RF modules and do SMD assembly.
- Used Ansys HFSS and SIWave to build and execute RF simulations for PCB designs.

STARRY, INC. | RF ENGINEERING INTERN | JUL 2016 – DEC 2016, JUL 2018 - NOV 2018 | BOSTON, MA

- Used Altium for Schematic Capture and Layout of RF PCBs.
- Trained vendors to do module manufacturing and bring-up.
- Software lead for Python autonomous data acquisition and testing of new RF FEMs.

DEPARTMENT OF HOMELAND SECURITY REU | RESEARCHER | JUN 2015 – JUNE 2016 | BOSTON, MA

- Designed, fabricated, and implemented a system for hallway-based millimeter wave imaging.
- Calibrated and troubleshoot transmitter and receiver PCBs using oscilloscope and soldering equipment.
- Utilized SolidWorks to design mechanical assemblies and MATLAB to write radar imaging simulation programs.

EDUCATION

NORTHEASTERN UNIVERSITY | BSEE IN ELECTRICAL AND COMPUTER ENGINEERING | cum laude

May 2019 | Boston, MA

Activities: HuskyHacks (Co-Founder) | IEEE (PR Rep) | Husky Ambassador Tour Guide | Wireless Club | AIAA | NUHacks

Honors and Awards: University Scholars Program (Top 1-2% of Applicants) | Dean's List |

MakeBU Hackathon First Place | HackNY Third Place | MakeCU Second Place | First Place Health PennApps

Relevant Coursework: Electromagnetics | Machine Learning | Wireless Communications | Linear Systems | Digital Design | Computer Organization | Circuits and Signals | Robotics: Sensing and Navigation | Networks | Engineering Algorithms

SKILLS AND INTERESTS

Engineering / Software: Cadence Allegro, Altium, HFSS, ADS, Network Analyzer, Spectrum Analyzer, LitePoint, 3D Printing, Microsoft Office, C, MATLAB, Verilog, Arduino, Python, SPI, I2C, SMD Soldering (01005, BGA)

Certifications: FAA Remote Pilot (3985666), FCC Amateur Radio General (KD2IQR), PADI Divemaster

Other: Photoshop, Lightroom, Pixinsight, Final Cut Pro, DIY Electronics, Mountaineering

PROJECTS

"DEMENTOR" AUTONOMOUS UAV [DEVPOST.COM/SOFTWARE/DRONETECH](http://devpost.com/software/dronetech)

Jul 2017 - Feb 2018 | Boston, MA

- Designed and constructed drone to execute flight paths, land, and charge autonomously using Ardupilot.
- Setup Qualcomm 4G dongle reverse ssh tunnel to communicate with drone wirelessly over Mavproxy without range limitation.
- Designed and constructed system to hot swap end effectors using nickel plated magnetic contacts.

PONG OVER LASER LINK | [DEVPOST.COM/SOFTWARE/POLL-PONG-OVER-LASER-LINK](http://devpost.com/software/poll-pong-over-laser-link)

Feb 2016 | Columbia University - New York, NY

- Programmed Arduino to transmit data via laser link (LiFi) at 2.4kHz and receive data sent by slave device laser.
- Designed and constructed laser transmitter circuit, phototransistor receiver circuit, and ADC.
- Optimized Tx accuracy and redesigned product using ATmega328 microcontrollers to demo at Atmel Road Show 2016.