

# Shanmukha Saketha Ramanujam S

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## Education

### M.S. by Thesis in Electrical Engineering

Concentration: RF Engineering

CGPA: 3.0/4.0

A.S.U., Tempe, AZ

Expected graduation: Fall 2022

### Bachelor of Technology

Concentration: Electronics and Communications Engineering

CGPA: 7.92/10

G.V.P.C.E (A), Vizag, IN

2019

## Relevant Graduate Coursework

mmWave and THz Measurements ▪ Microwave Engineering ▪ Antenna Analysis and Design ▪ Coherent Optics

## Technical Skills

**Languages:** Python ▪ Shell ▪ C ▪ MATLAB ▪ JavaScript

**Platforms:** Linux ▪ Arduino ▪ Raspberry Pi ▪ Pocketbeagle

**Tools:** HFSS ▪ ADS ▪ LabView ▪ Eagle ▪ Oscilloscope ▪ Multimeter

## Professional Experience

### Student Researcher | Terahertz Research Lab, A.S.U.

Summer 2021 – Present

*Technologies:* Radar Imaging, Beam-forming, MATLAB, Python

- Working on solving challenges with non-line of sight imaging capabilities using milli-meter wave radars.
- Developing real time scene and image correction algorithms for Non Line of Sight imaging.

### Graduate Services Assistant | Calhoun Lidar Lab, A.S.U.

Summer 2021

*Technologies:* MEMS LiDAR, APDs, Arduino, Python

- Designing and prototyping sub systems for Micro Electro Mechanical System based navigation LIDAR using Single Photon Avalanche Photo Diodes, Pulsed lasers and Time Digital Converters.
- Troubleshooting commercial off the shelf laser range finding systems.
- Managing an inter-disciplinary Engineering Team of 3 at the lab.

### Project Associate | Scientific and Industrial Research Centre, G.V.P.

Dec 2019 – Dec 2020

*Technologies:* Python, C, LabView, MATLAB, Eagle, Statistical Inference

- Designed and implemented a trans-impedance amplifier using AD704 in Autodesk Eagle.
- Developed, deployed, signal conditioning, processing algorithms for near real time evaluation of output parameters in Photonic System(s), published technical reports for Commercial Technology Partners.

## Academic Projects

### Non Line of Sight Imaging with mmWave Cascaded Radar

Fall 2021 - Ongoing

Automating Calibration, static and real-time imaging using TI AWR 2243 Millimeter Wave Cascaded Radar sensor, developing image processing algorithms for non-line of sight imaging. (Dissertation Area)

### FM Radio with GNU Radio Companion

Summer 2021

Tunable FM Receiver using software defined radio dongle, with flow graph generated in GNU Radio Companion.

### Simulation of an RF Cavity Resonator [GitHub]

Spring 2021

Designed and simulated a Radio Frequency Resonant Cavity resonator centered at 9GHz, in ANSYS HFSS for study of TEM Waves for driving RF Power in Linear Accelerators.

### 2 Axis Scanned LiDAR with Arduino [GitHub]

Summer 2021

Built a 2-axis scanned Lidar with real-time 3D visualization support using Arduino, servo motors and GARMIN Lidar Lite.

### Py-Ar MQxx [GitHub]

Fall 2020

MQ2, MQ5, MQ9, MQ135 (gas sensors) sensor integration with Arduino to data to for real time monitoring.

## Academic Achievement(s)

- Awarded with Masters Opportunity for Research in Engineering (ASU MORE) Grant for Fall 2021.