

# MOHIT PALLIYL SATHYASEELAN

Chandler, AZ | mohitsathyaseelan@gmail.com | +1 8135779968 | [metabix.github.io/Portfolio/](https://metabix.github.io/Portfolio/)

## EDUCATION

|   |                             |
|---|-----------------------------|
| <b>Master of Science, Electrical and Computer Engineering</b>             | August 2021 - December 2022 |
| University of Florida, Gainesville, FL                                    | GPA 3.63/4                  |
| <b>Bachelor of Engineering, Electronics and Communication Engineering</b> | July 2017 - June 2021       |
| Vellore Institute of Technology, Amaravathi, India                        | GPA 3.9/4                   |

## SKILLS

**Programming Languages :** C, C++, Python

**Software worked with :** NI Labview, Proteus, Vivado, VHDL, Altium, ModelSim, Jupyter Notebook, Git

**Hardware worked with :** PIC, ARM, ATMECL MCU , Raspberry Pi, Arduino, ESP32 ,ZedBoard (Virtex7 FPGA),OMRON PLC - CJ2M-CPU33, Nadesco AC controller, Fanuc controller - R-30iB

**Embedded specializations:** Clocks, UART, I2C, SPI, RTOS, USB, WiFi, BLE, DMA, Timers, PWM, ADC, DAC, JTAG, SWD, GDB, CI/CD (Jenkins, Docker)

## PROFESSIONAL EXPERIENCE

|  |                              |
|--|------------------------------|
| <b>CORPORATE APPLICATION ENGINEER</b>  | Jan 2023 - Present           |
| Specialized in Embedded Engineering, with deep experience in the architecture of PIC, dsPIC, ARM, Atmel, AVR, and USB products. Supported customers with firmware issues, assisted in their application development and system design.   |                              |
| <b>GRADUATE RESEARCH ASSISTANT</b>   | August 2022 - Decemeber 2022 |
| EAAR Lab National Science Foundation Funded Project; Developed a system which can predict the traffic using machine learning. (Microcontroller, Pre-polarized microphone, LTE solution and interface )   |                              |
| <b>FORD MOTOR COMPANY (R&amp;AE/Product Development Intern)</b>  | March 2022 - August 2022     |
| Studied Visible Light Communication (VLC) and Positioning, established their factors in Indoor localization. Proposed a Novel approach using April tags for localization, with maximum error of 6 cmsq.  |                              |
| <b>WIN AUTOMATION (Intern)</b>   | January 2021- June 2021      |
| Worked with the IoT solutions division. Built Medsmart – an IoT device used for COVID applications. Collaborated on the FANUC project - implemented an IoT layer for industrial communication. ( TCP, UDP) Project related to NVIDIA jetson - UGV application  |                              |
| <b>MINDTECK (R&amp;D Intern)</b>   | June 2018 - July 2018        |
| Assisted the CTO in building a BLE-based solution to track assets within an enclosed area. Foundation of triangulation was crucial here requiring at least three Raspberry Pi's for the working of the system. Collected and tested RSSI values for every one meter to help the system reach its accuracy. |                              |

## RESEARCH PAPER

IoT Based COVID De-Escalation System Using Bluetooth Low-Level Energy (ICICT- 2021)

An IoT Device, which predicts COVID-19 cases in that proximity of the device using pre-existing data collected in the database.

## ACADEMIC PROJECTS

**Evaluation of NASA Advanced Supercomputing Parallel Benchmark on HPC**

Used parallel computing programming interfaces such as MPI, OpenMP, CUDA; Profilled using gprof, score-p and nvprof profiling tools. Compared in depth performance of HiPergator HPC to the benchmarked HPC systems.

**Handwritten Symbol Classification using Convolutional Neural Network**

Designed a Convolutional Neural Network for a custom handwritten data set.

Evaluated other methods of classification. Improved model, to provide 94% accuracy.

**1-D Time-Domain Convolution using FPGA**

Implemented a custom accelerator circuit on FPGA to obtain 1-D convolution. Optimized circuit to a 14x speed with parallelism with respect to software implementation of the proposed convolution.

**Design of Character Device Driver and USB keyboard driver**

Modified USB keyboard driver to support different modes of operation on Linux and implemented a character device driver supporting independent ramdisk for each device with semaphores.

More projects in my [Portfolio](https://metabix.github.io/Portfolio/)