MOHIT PALLIYL SATHYASEELAN

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EDUCATION

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

SKILLS

Programming Languages: C, C++, Python
Software worked with: MPLAB X, VS Code, Altium, Jupyter Notebook, Git
Hardware worked with: PIC, ARM (M7, M4F, M33, M3, M7, M0+), MIPS, ATMEL MCU, Raspberry Pi, Arduino, ESP32, ZedBoard (Virtex7 FPGA), OMRON PLC - CJ2M-CPU33, Nadesco AC controller, Fanuc controller - R-30iB
Embedded specializations: MCU peripherals, JTAG, SWD, GDB, CI/CD (Jenkins, Docker), RTOS, FreeRTOS, Zephyr, Buildroot, USB

PROFESSIONAL EXPERIENCE

Microchip Technology Inc (CAE - Corporate Application Engineer) 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.

GRADUATE RESEARCH ASSISTANT August 2022 - December 2022
EAAR Lab National Science Foundation Funded Project; Developed a system that can predict traffic using machine learning. (Microprocessor, Pre-polarized microphone, LTE solution, and interface)

FORD MOTOR COMPANY (R&AE/Product Development Intern) March 2022 - August 2022
Studied Visible Light Communication (VLC) and Positioning, and established their factors in Indoor localization.
Proposed a Novel approach using April tags for localization, with a maximum error of 6 cmsq.

WIN AUTOMATION (Intern) 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

MINDTECK (R&D Intern) 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 that predicts COVID-19 cases in the proximity of the device using pre-existing data collected in the database.

ACADEMIC PROJECTS

Evaluation of the NASA Advanced Supercomputing Parallel Benchmark on HPC
Used parallel computing programming interfaces such as MPI, OpenMP, CUDA; Profiled using gprof, score-p, and nvprof profiling tools. Compared the 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 an FPGA to obtain 1-D convolution. Optimized the circuit to a 14x speed with parallelism with respect to the 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 an independent ramdisk for each device with semaphores.

More projects in my Portfolio