

# PURANJAY MOHAN

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Location: Chandigarh, India

## EDUCATION

SRM Institute of Science and Technology

Chennai, India

- Cumulative GPA: 9.7/10 (Till 6th semester)

*B.Tech. Electronics and Communications Engineering*

Jul, 2018 - May, 2022

## WORK EXPERIENCE

SWE Intern | Texas Instruments

Jan 2022 - Present

- Responsible for upstreaming of PRUSS[LINK] of the TI SOC's to the mainline Linux kernel.
- Enabled client drivers to utilize the capabilities of the PRU.
- Utilized Remoteproc subsystem of the kernel to build the driver.

Google Summer of Code Student [LINK] | GSOC @ The Linux Foundation [LINK]

May 2021 - Aug 2021

- Responsible for development of a Linux Kernel Driver for Analog Devices' ADXL355 Accelerometer.
- Enabled easy access to the accelerometer by the userspace through the Sysfs interface of the kernel.
- Utilized IIO Subsystem APIs to build the driver and sent it upstream [LINK].

Linux Kernel Mentee [LINK] | LKMP @ The Linux Foundation [LINK]

Jun 2020 - Sep 2020

- Responsible for adding the support for Latency Tolerance Reporting (LTR) in the Linux Kernel [LINK].
- Decreased the power consumption of PCIe Devices by allowing them to enter low power mode.
- Utilized the LTR device-specific method of the PCIe devices to allow latency reporting in the PCI Subsystem.

Embedded Design Intern | Electro Waves Electronics

Dec 2019 - May 2020

- Responsible for the development of a Human-Machine Interface for a DC electric vehicle charger
- Decreased the response time of the previously used display by **90%**.
- Utilized the STM32MP1 processor with a custom-built operating system for the HMI.

## OPEN SOURCE CONTRIBUTIONS

Linux: [torvalds/linux](https://torvalds/linux)

Embox: [github/embox](https://github.com/embox)

Zephyr RTOS: [github/zephyr-rtos](https://github.com/zephyr-rtos)

## PROJECTS

Wee OS | Tiny RTOS for ARM Cortex M3/M4 processors

[\[LINK TO PROJECT\]](#)

- A modular Real-Time Operating System built from scratch for ARM Cortex-M3/4 devices.
- Supports round-robin and weighted round-robin scheduling algorithms. It supports 4 hardware devices.
- Achieves a smaller memory footprint than mainstream RTOSs when only basic features are enabled.

AVRLIB | Open source API library for AVRMicrocontrollers

[\[LINK TO PROJECT\]](#)

- An Embedded C API for interfacing peripherals like UART, I2C, SPI, LCD, etc. with AVR microcontrollers.
- Allows easy development of AVR-based solutions without worrying about low-level embedded programming.

MyUno | An AVR-based microcontroller board similar to Arduino Uno

[\[LINK TO PROJECT\]](#)

- AVR Atmega328P microcontroller-based development board compatible with Arduino Uno.
- Improved the EMI rejection of the circuit using ferrite beads and other components not available in Arduino Uno.

## PUBLICATIONS

**A Tiny CNN Architecture for Medical Face Mask Detection for Resource-Constrained Endpoints**

Puranjay Mohan, Aditya Jyoti Paul, Abhay Chirania | Springer Conference Paper [\[LINK TO PDF\]](#) [\[LINK TO WEBSITE\]](#)

**Rethinking Generalization in American Sign Language Prediction for Edge Devices with Extremely Low Memory Footprint**

Aditya Jyoti Paul, Puranjay Mohan, Stuti Sehgal | IEEE Conference Paper [\[LINK TO PDF\]](#) [\[LINK TO WEBSITE\]](#)

## SKILLS

**Programming Languages:** Proficient: C, Assembly(x86, ARM), Python

Familiar: C++, Java, Verilog HDL

**Technologies / Tools:** Proficient: Git, Make, GCC, Travis CI, Matlab

Familiar: Altium, SPICE, Amazon AWS

**Competencies:**

Device drivers, Linux Kernel, RTOS, Embedded Systems, PCI Platforms, CI/CD pipelines, Embedded Linux, Systems Programming.