PURANJAY MOHAN

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Location: Dresden, Germany

EDUCATION

SRM Institute of Science and Technology ***B.Tech. Electronics and Communications Engineering***
Chennai, India **Jul, 2018 - May, 2022**

- Cumulative **GPA**: 9.7/10

WORK EXPERIENCE

Linux Kernel Developer (SDE-1) | Amazon **Sep 2022 - Present**

- Responsible for developing and improving the Linux kernel used by millions of hosts in various AWS services like EC2, S3, RDS, etc.
- Enabling customers patch their fleet at runtime using technologies like **kpatch** and **eBPF**.
- Helping customers monitor and improve their performance with respect to the Linux kernel.

SWE Intern | Texas Instruments **Jan 2022 – Jun 2022**

- Responsible for upstreaming of PRUSS[LINK] of the TI SOCs to the mainline Linux kernel.
- Enabled client drivers to utilize the capabilities of the PRU.
- Allowed customers to write custom networking solutions with low latency.

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%**.

OPEN SOURCE CONTRIBUTIONS

Linux: torvalds/linux **Embox**: github/embox **Zephyr RTOS:** github/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.

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++, SQL, Verilog HDL
Technologies / Tools:	**Proficient**: Git, Make, GCC, Docker	**Familiar:** Altium, SPICE, Amazon AWS
Competencies:	Device drivers, Linux Kernel, RTOS, Embedded Systems, PCI Platforms, CI/CD pipelines, eBPF, Systems Programming.	