M. Tech - *Signal Processing, Communication & Networks*
Department of Electrical Engineering
Indian Institute of Technology, Kanpur

Aravind Potluri

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Education & Relevant Courses

Master of Technology (SPCOM) - *Indian Institute of Technology Kanpur, Kanpur, CPI - 7.78* **2023 - 2025**

- Introduction to Signal Analysis, Representation And Analysis Of Random Signals, Mathematical Optimization, Detection & Estimation Theory, Digital Communications and Networks, Data Structures & Algorithms, Intro to Machine Learning

Bachelor of Technology (ECE) - *Indian Institute of Space Science and Technology, Trivandrum, CGPA - 7.01* **2019 - 2023**

- Signals and Systems, Digital Signal Processing, Navigation Systems, Communication systems, Satellite and Optical Communication, Computer Networks, Complex Networks, Computer Architecture, Basic Programming (c++)
  Miscellaneous: Principles of Management, Communication skills.

Intermediate (Maths, Physics & Chemistry) - *Ascent Junior College, Visakhapatnam , Percentage - 95.5%* **2016 - 2018**

Matriculation (Maths & Sciences) - *Visakha Valley School, Visakhapatnam, CGPA - 10* **2015 - 2016**

Work Experience

Flight Software Intern - *Agnikul Cosmos, Chennai* **Jan' 2023 - Jun' 2023**

- Implemented Time-Sensitive Networking (TSN 802.1) in the flight architecture to ensure low-latency, reliable communication, enhancing data control and system synchronization. And designed a robust network architecture integrating TSN, SPI, and UART (RS422/RS232) protocols for reliable and efficient in-flight communication.

Project Intern - *URSC:ISRO, Bangalore* **Jun' 2022 - Jul' 2022**

- Optimized CCMP and GCMP protocols to reduce time complexity, achieving a nearly tenfold boost in processing speed. These enhancements significantly improve the efficiency and reliability of space communication systems.

Research

Robust Techniques for Indoor Localization and Sensing - *Indian Institute of Technology Kanpur* **May' 2024 - May' 2025**

- *M.Tech Thesis* under the supervision of Dr. S. Swamy Peruru and Dr. Amitangshu Pal, focused on enhancing localization accuracy in non-line-of-sight (NLOS) and sparse access point environments through the utilization of IEEE 802.11ac/ax devices. The research also explores innovative sensing methodologies.

Position of Responsibilities

Chair Person - *IEEE EdSoc Chapter IIST* **Jun' 2022 - Aug' 2022**
General Secretary - *IEEE Student Branch IIST* **Aug' 2022 - Dec' 2022**
Teaching Assistant - *EE320: PRINCIPLES OF COMMUNICATION under Prof. K. Vasudevan* **Aug' 2023 - Dec' 2023**
Teaching Assistant - *EE698K: PROGRAMMING FOR SIGNAL PROCESSING under Dr. Vipul Arora* **Aug' 2024 - Dec' 2024**

Skills

Programming Languages	C/C++, Bash, Python, MATLAB, Rust, Ada.
Software & Tools	Wireshark, NetSim, Packet Tracer, Nmap, GNS3, Git, LabVIEW, Yocto Project, Buildroot.
Technical Skills	Kernel Programming, Network Stack and Security, Computer Architecture & Organization, Embedded Systems, Machine Learning/AI, Version Control Systems.

Certifications

Open Source and the 5G Transition | The Bits and Bytes of Computer Networking | Operating Systems and You
MATLAB OnRamp, Simulink OnRamp | Learn Linux Kernel Programming | Guide to Linux Kernel Development

Projects

Data Structures and Algorithms Python Library: [EE689 | LINK]

- Implemented a comprehensive DSA library, optimized for performance and usability as an educational tool for students.

UDP Based Live Video Streaming Application: [EE673 | LINK]

- Developed a real time video streaming application with UDP & OpenCV demonstrating proficient network programming.

Assessing the Vulnerability of CAR-PUFs Using SVM: [CS771 | LINK]

- Demonstrated security vulnerabilities of CAR-PUFs using minimal training data with mathematical modeling & SVM.

Python Based Reed-Solomon Error Correction Code: [SELF | LINK]

- Implemented an ECC that enhances data reliability and integrity for robust error detection and correction in transmission.

Backend Development for Navigation Correlator in IIST's NavIC Hardware: [SELF | LINK]

- Developed the backend for the Navigation Data Correlator tailored for IIST's NavIC hardware using UART and pandas.

Intra-WebShare: Internal Network File Sharing Application: [SELF | LINK]

- Web-based file sharing tool for intranet, which boosts operational efficiency by quickly sharing within the organization.