Aravind Potluri

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

⚲ Visakhapatnam, Andhra Pradesh
+91 9505831173 | aravindswami135@gmail.com

 GitHub : cipherswami
 LinkedIn : cipherswami
 ORCiD : 0000-0001-9517-3649
 website : cipherswami.github.io

EDUCATION & RELEVANT COURSES

Master of Technology (SPCOM) - *Indian Institute of Technology Kanpur, Kanpur, CPI - 7.78* **2023 - 2025**
- Data Structures & Algorithms, Introduction to Machine Learning, Mathematical Optimization, Digital Communications and Networks, Introduction to Signal Analysis

Bachelor of Technology (ECE) - *Indian Institute of Space Science and Technology, Trivandrum, CGPA - 7.01* **2019 - 2023**
- Basic Programming (c++), Computer Architecture, Computer Networks, Complex Networks
  Miscellaneous: Ethics, Principles of Management, Sci-Fi, 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 - *EE698K: PROGRAMMING FOR SIGNAL PROCESSING under Dr. Vipul Arora* **Aug' 2024 - Dec' 2024**

SKILLS

Programming Languages	C/C++, Rust, Bash, Python, Go, HTML/CSS, JavaScript, PHP, MySQL
Software & Tools	Yocto Project, Buildroot, Wireshark, NetSim, Nmap, Git, Docker, GCP, Doxygen
Technical Skills	Kernel Programming, Network Stack and Security, Computer Architecture, Web Development, Embedded Systems, Machine Learning/AI, Version Control System

CERTIFICATIONS

Learn Linux Kernel Programming	The Bits and Bytes of Computer Networking	Operating Systems and You
Guide to Linux Kernel Development	Open Source and the 5G Transition	Technical Support Fundamentals

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.

TCP Based Socket Implementation: [EE673 | LINK]
- Developed a Python app for basic TCP connections, ensuring reliable communication and efficient data transfer.

Assessing the Vulnerability of CAR-PUFs Using SVM: [CS771 | LINK]
- Demonstrated security vulnerabilities of CAR-PUFs using minimal training data with mathematical modeling & SVM.

SVD Image Compression: [EE605 | LINK]
- Implemented an SVD-based image compression algorithm, reducing a 1.1 MB image to 0.75 MB with minimal visual loss.

Termux Boot Utility for Nethunter's Kali-Chroot: [SELF | LINK]
- Created an executable for booting Nethunter Kali-Chroot in Termux, streamlining Kali on penetration testing on mobile.

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.