

M. ARAVIND

Master of Science by Research (MSR) candidate
Signal Processing, Communication & Networks (SPCOM)
Department of Electrical Engineering, IIT Kanpur

Email: aravindvenma@gmail.com
www.aravindalokam.com, maravind21@iitk.ac.in
Phone: +91 807872 7873 / 81291 57891

ACADEMIC QUALIFICATIONS

Year	Degree/Certificate	Institute	CPI/Percentage
2021-Present	MS by Research	Indian Institute of Technology, Kanpur	8.01
2019	BTech (Hons) in ECE	TKM College of Engineering (Govt. Aided)	8.73
2015	XII (CBSE/AISSCE)	Kendriya Vidyalaya, Pattom	93.8
2013	X (CBSE/AISSE)	Kendriya Vidyalaya, Pattom	10.0

SCHOLASTIC ACHIEVEMENTS

- Secured “A” grades in Wireless Communication (EE670A), Data Structures and Algorithms (EE798B) courses at IIT Kanpur.
- Secured O[S] grade (Scored above 90%) in all mathematical subjects in the undergraduate curriculum and received Hons. from APJ Abdul Kalam Technological University, Kerala for completing additional postgraduate coursework along with BTech.

TECHNICAL EXPERIENCE

- Programming languages: C, C++, Java ME, Python, Web (HTML, CSS, JS), Verilog, VHDL
- Hardware: Worked with boards from STM32, NXP, AVR, NRF; Protocols: UART, I2C, SPI, Zigbee, BACnet, BLE, LoRaWAN
- IDE: STM CubeIDE, IAR Workbench, MCU Expresso, Atollic True Studio, Visual Studio Code, IntelliJ IDEA
- Miscellaneous: JTAG, SWD, Redmine, Mantis, Node-RED, Jira, LaTeX

WORK EXPERIENCE

- SOFTWARE ENGINEER (FIRMWARE), Tismo Technology Solutions Pvt. Ltd., Bengaluru. **July 2019 – Sep 2020**
- Intern, Dept. of ECE, National Institute of Technology, Calicut **May 2018 – June 2018**

ACADEMIC PROJECTS

- MSR Thesis: Open problems in Molecular Communication. **2022**
- BTech Project: Unmanned Aquatic Vehicle Adaptive Control System with application for Underwater Human Detection **2019**

COURSE PROJECTS AND TERM PAPERS

- Wireless Communication (EE670A)** **Aug 2021 – Nov 2021**
Language: Python; Work Done: Simulations for studying Bit Error Rate, SNR, SINR etc for multiple antenna fading systems; Codes at: https://github.com/hakcat/CommunicationEng_Projects/tree/main/, Term Paper: Green OFDM
- MIMO Wireless Communication (EE677A)** **Aug 2021 – Nov 2021**
Language: MATLAB; Work done: Plotting and studying capacities of various channels (AWGN, fading) for SISO to MIMO cases; Uplink Spectral Efficiency for LoS and NLoS Massive MIMO channels for multi cell systems. Codes in same repo. above
- Term Paper: Age of Information in Molecular Communication systems, Molecular Communications (EE698U), Sem II.
- Term Paper: Stochastic Transportation Problem, Convex Optimization (EE609A), Sem II.

PUBLICATIONS

- An inexpensive Unmanned Aquatic Vehicle for Underwater Human Detection, Shafi MN, M Aravind, Ashik P, Sudheesh K, Romal A, American Institute of Physics Conference Proceedings 2222, 040015 (2020).

RELEVANT COURSEWORK

- IIT Kanpur:** Introduction to Signal Analysis (EE605A), Representation and Analysis of Random Signals (EE621A), Wireless Communication (EE670A), MIMO (EE677A), Convex Optimization (EE609A), Molecular Communication (EE698U), Analysis of Modern Wireless Networks (EE672A), Data Structures and Algorithms (EE798B)
- B.Tech (Hons):** Advanced Optical Communication Systems (02EC6241), Advanced Digital Signal Processing (02EC6221). Syllabus link: <https://ktu.edu.in/eu/acd/academicRegulation.htm>

POSITIONS OF RESPONSIBILITY (Academic Year 2022-2023, at IIT Kanpur)

- Academic Senate: PG (Masters) Student nominee; • Senate Scholarships and Prizes Committee: Student nominee
- Institute Counselling Service: PG Core Team Member
- Toastmasters Club IITK: Vice President, Public Relations; • Photography Club IITK: Secretary

EXTRACURRICULAR ACTIVITIES/ ADDITIONAL INFORMATION

- School Captain, School Vice-Captain, and School Council Member for multiple tenures (KV Pattom)
- [BTech] Co-Founder, Space it Lab, a technical lab for freshmen & sophomore students aimed at industry; [local media coverage](#)
- Google Science Fair Regional Finalist, Asia Pacific: 2 times consecutive; for 2012 and 2013.
- Certificate of Merit and Cash Award from KV Sangathan for excellence in AISSE (2013).
- Attended weeklong trainings at Airport Authority of India and Keltron Power Electronics, Special Products Groups.
- Corporate projects include a POC application for LoRa, Smart streetlight control and Mesh feature implementation using Zigbee.
- Above average typing speed of 65-70 without touch typing.
- Trained (7 yrs) Mridangam player (Carnatic Music) and have played in school, college and office events.
- Loves Bike Ride, Photography, Acting & Theatre, Art & Music, and Amateur Astronomy. Amateur HAM : Call Sign: VU2LWH.