M. ARAVIND

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Education

Indian Institute of Technology, Kanpur • Kanpur, Uttar Pradesh, India 2023 (exp)
Master of Science (By Research), MS-R • *Electrical Engineering* • SPCOM

TKM College of Engineering (*Kerala Technological University*) • Kollam, Kerala July 2019
Bachelor of Technology (Hons.) • *Electronics & Communication Engineering* • CGPA: 8.73/10.0

Kendriya Vidyalaya Pattom • Trivandrum, Kerala May 2015
AISSCE (XII) • *Physics, Chemistry, Mathematics, Computer Science* • 93.8 %

Kendriya Vidyalaya Pattom • Trivandrum, Kerala March 2013
AISSE (X) • *Science* • CGPA: 10.0/10.0

Work Experience

Software Engineer (*Firmware*) – Tismo Technology Solutions Pvt. Ltd. July 2019 – Sep 2020
Bengaluru, Karnataka

- Work experience in developing projects in wireless communication domain and Internet of Things (IoT).
- Experience working in C and java ME.
- Experience working with UART, SPI, I2C (Board bring-up).
- Exposure to Zigbee, BLE, LoRa technologies.
- Attended Microchip Masters Conference, Bengaluru 2019, representing the firm.

Research Intern – DSP Lab, National Institute of Technology Calicut May 2018 – Jun 2018
Calicut, Kerala

- Worked on implementing improved PCA methods for detecting principal moving objects from video sequences.
- Worked under the guidance of Dr. Sudhish N George.

Intern – Airports Authority of India Jun 2017
Trivandrum Domestic Airport, Kerala

- Received training on Area, Approach and Air Traffic Control during landing and take off of aeroplanes.
- Conducted a study of the working of different machines used for air communication and prepared a detailed report for the same.

Corporate Projects

LoRa sensor monitor June 2020 – July 2020
(P.O.C)

- Developed a Proof Of Concept Application for evaluating LoRa technology where LoRa communication with available sensor data is demonstrated in all 3 classes and firmware over the air update is tested.

Smart street light control using 3G and Zigbee Mar 2019 – Sep 2020
(Client Project - Maintenance)

- Worked on the firmware development (Java ME) of a street light controller which has features designed to maintain energy efficiency.

Internet sharing for Smart street light control using Zigbee Aug 2019 – Apr 2020
(Client Project - from Scratch)

- As part of a team, got a chance to work on a proprietary technology which enables many street light controllers to exchange information via Zigbee with one main controller (switchable) which is having 3G internet connectivity, so that the internet connectivity is now virtually shared among all the controller devices.

Academic Projects

An inexpensive Unmanned Aquatic Vehicle for Underwater Human Detection Jan 2019 – May 2019
8th Semester Final Project

- Developed a low cost working model of an underwater vehicle which is capable of performing object detection under water while working autonomously.
- Published a paper with the same title in American Institute of Physics Conference Proceedings 2222, 040015 (2020).

Advanced Vertical-Farming Assisting Setup (AVAS) Oct 2017 – Nov 2017

5th Semester Research Project

- The project discusses the idea of automation of Vertical Farming for better yield.
- Fuzzy performance analysis, and comparison of growth attributes, of subject plants with the ideal set, and automation using micro controller, humidity, temperature sensors and servo motors, and studied the response.

Bluetooth Enabled Assist Device Jan 2017 – Mar 2016

4th Semester Research Project

- Devised a prototype model for assisting indoor navigation for visually challenged people.
- Used the then latest BLE beacons for indoor mapping and developed an application to trigger the handheld device for direction advice.

Autonomous Maze Solver Oct 2016 – Nov 2016

3rd Semester Research Project

- Implemented a modified version of Pledge Algorithm to make a robot which solves the given maze.
- Maze consisted of styrofoam walls and robot relied on ultrasonic sensors to detect walls.

Publications

An inexpensive Unmanned Aquatic Vehicle for Underwater Human Detection 2020

Shafi MN, M Aravind, Ashik P, Sudheesh K, Romal A.

- American Institute of Physics Conference Proceedings 2222, 040015 (2020).

Technical Experience

- Software: C, Java ME, Python, Web(HTML, CSS & JS), MATLAB.
- Hardware: STM32, NXP, AVR and NRF development boards.
- IDE: STM CubeIDE, IAR Workbench, MCU Expresso, Atollic True Studio, Visual Studio Code, IntelliJ IDEA.
- Protocols: UART, I2C, SPI, Zigbee, BACnet, BLE, LoRaWAN.
- Programming/Debug Tools: JTAG, SWD.
- Miscellaneous: Redmine, Mantis, Git, Node-RED, LaTeX.

Relevant Coursework

- Masters: Introduction to Signal Analysis (EE605A), Representation and Analysis of Random Signals (EE621A), Wireless Communications (EE670A), MIMO Wireless Communication (EE677A).
- UG Honours: Advanced Optical Communication Systems (02EC6241), Advanced Digital Signal Processing (02EC6221). Syllabus link: {Syllabus}.

Extra Curricular Activities

- Co-Founder and mentor for IoT - Special Interests Group, a college club which conducts workshops and training for freshmen and sophomore students in latest tech in demand.
- Co-Founder - Space it Lab, a college initiative of opening a technical laboratory for developing student initiated projects; aimed at preparing and elevating students to the industrial requirements. {Newspaper report}
- School Council member for consecutive years. Headed the responsibility of School Captain during the senior year.
- Quiz enthusiastic: 1st in Inter-KV All Kerala Quiz Competition (2014), and other similar events.
- 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.

Awards & Recognition's

- Secured O[S] grade (Scored above 90%) in all mathematical subjects in the undergraduate curriculum.
- Secured Hons. from APJ Abdul Kalam Technological University for completing additional M.Tech coursework credits within B.Tech course span.
- Google Science Fair Regional Finalist, Asia Pacific: 2 times consecutive during 2012 and 2013, for presenting one among the top 30 projects in the age category 14-16.
- Certificate of Merit and Cash Award from KV Sangathan for excellence in AISSE (2013).
- Proficiency Test Scores (2021): IELTS: Band 7, GRE: 310 (Quants: 162).

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[1]Last updated on : 11 October 2021