

# Ryyan Safar

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Education	Institute	Year	CGPA/Status
B.Tech., Electronics and Communication	Rajagiri School of Engineering and Technology, Kochi	2023–27	8.77
CS50: Introduction to Computer Science	HarvardX	2024	Verified
ISWDP – Level 1 Certification	IISc Bangalore, Samsung Semiconductor, Synopsys	2025	Completed

## CAREER OBJECTIVE

- Electronics and Communication Engineering student passionate about embedded systems and Linux-based development. Focused on building reliable, real-world solutions and eager to contribute to projects that combine hardware, software, and innovation.

## PROFESSIONAL EXPERIENCE

- **Research Intern | AugsenseLab** May 2025 – Jun 2025
  - Built a real-time IMU + GNSS fusion system using **Kalman Filter**, achieving centimeter-level positioning accuracy.
  - Developed a Flask-based dashboard for visualizing live sensor and weather data using NetCDF models.
  - Designed a precipitation prediction tool integrating proprietary sensing data with forecast models.
  - Enhanced rapid prototyping and debugging skills across embedded–software interfaces.
- **Technical Coordinator & Social Media Manager | TeamApt Academy LLP** Sep 2024 – Present
  - Designed, built, and maintain the official website **teamapt.in** using Flask, HTML, CSS, and JavaScript.
  - Handle technical operations, website optimization, and content integration for live learning modules.
  - Manage TeamApt’s official social media presence across Instagram, LinkedIn, and Facebook — creating and scheduling posts, analyzing engagement, and improving outreach.
- **Vice President | SOCIAL – Student Open Collaboration for Innovative Applications** Nov 2023 – Jan 2025
  - Led technical and outreach initiatives for campus-wide innovation programs.
  - Organized workshops and speaker sessions on social entrepreneurship and tech-for-good.
  - Contributed to content creation for the student newsletter “**Chronicles**”, featuring student-led innovations.
- **Campus Ambassador | Perplexity AI – Comet Program** Oct 2025 – Present
  - Represent **Perplexity AI** across university networks, promoting responsible AI adoption and productivity tools.
  - Generated verified outreach leads and provided user feedback to improve campus engagement.
- **Millennium Fellow | Millennium Campus Network (MCN)** Aug 2025 – Present
  - Selected as a UN Millennium Fellow representing **APJ Abdul Kalam Technological University**.
  - Co-developing the project “**Overflow Ends with Us**”, focused on smart waste disposal and sustainability awareness.
  - Conducting outreach and awareness sessions aligned with UN SDG goals.

## TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Embedded C, Verilog HDL, SystemVerilog, Java, SQL, HTML, CSS, JavaScript.
- **Hardware Platforms:** Raspberry Pi, ESP32, Arduino, NodeMCU, 8051 Microcontroller, FPGA (Xilinx), Sensors and Actuators (IMU, GNSS, Ultrasonic, LDR, etc.)
- **Tools & Frameworks:** Flask, OpenCV, TensorFlow, NumPy, Matplotlib, NetCDF4, wrf-python, MySQL, MongoDB, AutoCrat, ROS2, Git.

- **Operating Systems:** Linux (Ubuntu, Arch, Raspberry Pi OS), macOS, Windows.
- **Domains of Interest:** Embedded Systems, Rapid Prototyping, Linux Systems and Kernel, Data Visualization, and Cloud Computing.

## POSITIONS OF RESPONSIBILITY

- **Co-Section Student Representative | IEEE Kerala Section** *Jan 2025 – Present*
  - Representing over 20,000 IEEE student members across Kerala; coordinating statewide LINK initiatives and student engagement programs.
- **LINK Representative | IEEE RSET Student Branch** *Jan 2025 – Present*
  - Liaison between IEEE LINK and the RSET Student Branch; support technical event planning and chapter coordination.
- **Technical Coordinator | IEEE RSET Student Branch** *Mar 2024 – Jan 2025*
  - Provided technical assistance for workshops and events; automated certificate workflows using Google AutoCrat.
- **Technical & Professional Development Coordinator | IEEE India Council** *Apr 2024 – Dec 2024*
  - Assisted in organizing AISWYLC'24 and R10 Code-a-thon; contributed to technical content and outreach campaigns.
- **Millennium Fellow | Millennium Campus Network (UN Initiative)** *Aug 2025 – Present*
  - Representing APJ Abdul Kalam Technological University; leading sustainability project "Overflow Ends With Us."
- **Volunteer | TinkerHub** *May 2025 – Present*
  - Conducted a 5-day Python Study Jam for over 100 participants across Kerala; mentored beginners in programming.

## SELECTED PROJECTS

- **AI-to-AI Conversational System (Mis-Communicationator)** *Raspberry Pi 4 · llama.cpp · Python · GPIO*
  - Built a self-sustaining dialogue system between two AIs using locally hosted models on a Raspberry Pi 4.
  - Optimized performance under thermal limits (82°C); showcased at **Maker Thursday, TinkerSpace Kochi**.
- **Smart Glass Mount for the Visually Impaired** *ESP32-CAM · Python · YOLOv5 · OpenCV*
  - Designed a modular attachment for existing glasses providing obstacle detection and audio cues.
  - Awarded the **Real-World Impact Award** at HackSus 4.0 among 55+ teams.
- **CNC Plotter for PCB Design** *Arduino UNO · GRBL · Stepper Motors · G-code*
  - Built a cost-effective CNC plotter using repurposed components to automate PCB layout drawing and etching.
- **Raspberry Pi NAS with RAID (Work in Progress)** *Linux · mdadm · Samba · OpenMediaVault*
  - Developing a RAID-1 network storage system with automated backup and cross-platform file sharing.
- **Overflow Ends With Us (UN Millennium Fellowship Project)** *IoT · Sustainability · Waste Management*
  - Leading a UN-recognized initiative to develop a smart bin system promoting responsible plastic disposal.

*Additional Projects:* Voting Machine • Sign Language Translator • Digital Stopwatch • Humidity Alert System • Dual Op-Amp Signal Generator • Automatic Street Light • Hospital Finder • Password Manager

## IDEATHON ENTRIES & PROTOTYPE SUBMISSIONS

- **Wildfire SAIfty** *Computer Vision · Disaster Management*
  - Proposed an AI-driven wildfire detection and confirmation model integrating satellite imagery and drone verification.
  - Shortlisted to the penultimate round of Talentime Idea Pitching Competition.

- **KSEB Smart Meter Alternative IoT · OCR · GIS Mapping**
  - Conceptualized a Bluetooth-enabled OCR camera module for automated meter readings transmitted to POS systems.
  - Mapped readings using GIS; ranked among the **Top 10** entries nationwide.
- **Down Syndrome Companion App AI · Accessibility · Emotion Detection**
  - Designed a supportive platform leveraging emotion recognition (Amazon Rekognition + GPT-4o) to enhance inclusivity.
  - Submitted for **SlashKey 3.0** and **IIC Ideathon**.
- **Safe Sight Computer Vision · Women's Safety**
  - Proposed a surveillance analytics system using YOLO and Mediapipe for real-time alert generation and crime detection.
  - Implemented multi-tier alert system (Yellow, Orange, Red) for prioritized police response.

## REFERENCES

- **Academic Reference:**  
Mr. Nitheesh Kurian  
Professor, Department of Electronics and Communication  
Rajagiri School of Engineering and Technology, Kochi  
Email: nitheeshk@rajagiritech.edu.in  
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- **Professional Reference:**  
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## SELF DECLARATION

- I hereby declare that the information provided above is true and correct to the best of my knowledge and belief.

*As of November 2025*