BHARATH KUMAR A

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Professional Summary

Electronics and Communication Engineering student specializing in embedded systems, firmware development, IoT, and full-stack applications. Proficient in C/C++, Python, ESP32, and cloud-integrated architectures for real-time telemetry and automation. Winner of multiple national-level hackathons (4 podium finishes), with hands-on experience in hardware debugging, circuit design, and production-grade system development.

Technical Skills

- Languages - C • C++ , Python , JavaScript
- Embedded - ESP32 , Arduino, Raspberry Pi Pico
- Frameworks - React ,Next.js , Node.js , Tailwind CSS
- Database - Supabase , Firebase
- Tools - Git , GitHub , OpenCV
- Protocols - UART , I2C

Projects

- **Connect & Prep – Student-Centric Academic & Pitching Platform**
  Technologies: React, Node.js, Tailwind CSS, Supabase
  Engineered a centralized platform for study resource sharing and academic collaboration; won 2nd prize at Fusionx 24-hr national level hackathon and advanced to the semi-finals at the NIT Warangal Idea Pitching Event
- **Devex — Centralized College Engagement & Activity Management Ecosystem**
  Technologies: Next.js, React, TypeScript, Tailwind CSS, Supabase, PostgreSQL, Recharts
  Engineered a multi-tenant campus engagement portal with role-based access control (RBAC) supporting distinct dashboards for Students, Organizers, Faculty, and Admins; implemented Supabase Row-Level Security policies for secure data access and real-time analytics on event registrations and team formations.
- **Nexus Twin – Real-Time Urban Digital Twin Platform**
  Technologies - React, Next.js ,Open street map API, Ollama, Tailwind CSS
  Developed a 3D digital twin platform using OpenStreetMap API to visualize urban data, integrating a public grievance portal and predictive analytics engine
- **Facial Recognition System – Smart Biometric Verification System**
  Technologies: Python, OpenCV, C++, ESP32, Supabase
  Designed a vision-based biometric verification system achieving 70%+ recognition accuracy with under 2-second response time, syncing verified identities to a cloud database in real time.

Experiences

- Operational Lead – Innovators & Visionaries Club (2025–Present)
- Led planning and execution of technical events and hackathon initiatives.
- Supervised project timelines for 4 student development groups, ensuring functional hardware prototype delivery within a 6-week timeline

Education

Bachelor of Engineering in Electronics and Communication Engineering
Vidya Vardhaka College of Engineering
2025 – 2029 | CGPA: 9.05/10

Certifications

- **ISRO START**: ISRO - 2026
- **Introduction to Electronics**: Georgia Institute of Technology - 2026
- **Github & Copilot Fundamentals** : Microsoft & simple learn - 2026
- **C Programming**: Dartmouth College and Institut Mines-Télécom - 2025

Achievements

- **National Semi-Finalist:** National Institute of Technology (NIT) Warangal Idea Pitching Event (50+ participants)
- **1st Place:** Idea generation - Aavishkaar (25+ participants)
- **2nd Place:** Parivartan, 24-Hour Hackathon ,VVCE (80+ teams)
- **2nd Place:** FusionX 1.0 , 24-Hour Hackathon ,VVCE (110+ teams)
- **3rd Place:** PES College of Engineering National-Level Hackathon, Mandya (70+ teams)
- **Top 12 finalists**: PES Shivmogga Placed among 700+ teams.
- Best 1st year software project - Open Day, VVCE
- Selected competitor in regional 24-hour hackathons (Vibeathon, Technotsav, Nirmith, Pioneer 3.0), rapidly prototyping and presenting IoT solutions.