

Suraj Krishna Banavalikar

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Skills

Programming Languages: C/C++, Java, Python, JavaScript

Frontend Development: HTML, CSS, React.js

Backend Development: Node.js, REST APIs

Databases: PostgreSQL, MySQL, MongoDB

Technologies & Tools: Docker, Linux, Git, GitHub

Core Computer Science: Data Structures & Algorithms, OOP, OS, DBMS, Computer Networks

Education

Ramaiah Institute of Technology (MSRIT) | Bengaluru

Oct 2023 - Present

B.E. in Computer Science and Engineering

CGPA: 9.2/10

Relevant Coursework: Object Oriented Programming using Java, Databases, Discrete Mathematics, Data Structures and Algorithms, Operating Systems, Computer Networks, Design and Analysis of Algorithms, Microcontrollers & IoT.

St. Joseph PU College | Karwar

Aug 2021 - March 2023

Course in PCMC

Grade : 96.16 %

Relevant Coursework: Physics, Chemistry, Mathematics, Object Oriented Programming using C++, DBMS.

Project Work

Campus Helpdesk – AI Powered Campus Helpdesk System (2025) | Python, MongoDB, Pinecone, JavaScript

- Built AI-powered query resolution system using vector database (Pinecone), reducing manual query handling by ~40%.
- Implemented a speech-to-text interface to improve accessibility, allowing users to interact via voice commands.
- Developed a distributed chatbot architecture using backend clustering (PM2), estimated to support ~50-80 concurrent users.
- **Source Code:** github.com/varun99015/Campus-HelpDesk

StellarRoutes (2025) | MERN Stack, Python, Leaflet.js, NASA APIs

- Backend Engineer for a GPS-independent navigation system designed for high-interference environments like Solar Storms.
- Implemented Inertial Navigation logic using mobile IMU sensor data (accelerometer/gyroscope) to calculate position without satellite dependency.
- Integrated NASA's NOVA API for live kp index values and proposed future integration with ISRO's Aditya-L1 real-time telemetry.
- **Source Code:** github.com/varun99015/StellarRoute

Computer Vision Gesture Controller | Python, OpenCV, MediaPipe

- Engineered a multi-hand logic engine to map complex gestures to concurrent keyboard actions, such as simultaneous steering and acceleration.
- Implemented low-level Win32 API calls to bypass standard OS input limitations, ensuring compatibility with high-performance, full-screen applications.
- **Source Code:** github.com/surajkb2005/OpencvHandDetectForGame

Work Experience

RIT S.T.A.R.D.U.S.T Club

May 2025 - Present

Software Engineer – Avionics Member

- Designed modular software architecture for autonomous drone system, improving scalability and maintainability.
- Structured Python-based telemetry processing pipelines for real-time mission analysis.

Awards and Certificates

- Won 2nd Place in the wHACKiest 2025 24 hours hackathon conducted by MSRIT college in campus. Built the Stellar-Route project as part of a team, contributing as a backend engineer.
- Data Structures and Algorithms with LeetCode Solving on Udemy.