Vinayak Kumar Singh

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Education

RV College of Engineering   **Bangalore, Karnataka**
Bachelor of Engineering in Information Science and Engineering CGPA:9.02   *Expected Jun. 2027*

Maruthi PU College   **Bangalore, Karnataka**
Pre-University College (PUC) - PCMC stream : 94.83%   *2021 – 2023*

Citizens' English School   **Bangalore, Karnataka**
ICSE: 93%   *2011 – 2021*

Relevant Coursework

- Data Structures
- Data Science
- Algorithms
- C Programming
- Web Development
- Operating Systems
- C++
- IoT
- MATLAB

Projects

LocateX | *ESP-32, Raspberry Pi,Sensors,HTML/CSS,Flask* | ○   **Jun. 2025**
- Designed and deployed a Flask-based real-time asset tracking web app on Raspberry Pi.
- Integrated ESP32 with DHT11, MPU6050, and GPS modules to stream sensor data to a RESTful Flask API.
- Implemented SQLite-backed persistent storage and real-time dashboard.
- Developed RESTful APIs for secure and scalable data exchange between microcontroller and server.

CryptoComplexity – ABE Algorithm Complexity Analysis | *Python, Django, Chart.js, HTML/CSS* | ○   **Jul. 2025**
- Built a Django web platform to simulate and benchmark CP-ABE and KP-ABE cryptographic operations
- Simulated KeyGen, Encryption, and Decryption complexity using time-based empirical analysis
- Displayed Big-O complexity and benchmark results in dynamic charts using Chart.js
- Designed user-friendly input forms and visualization dashboard for ABE performance comparison

Virtual Tourist | *Next.js, TypeScript, A-Frame* | ○ | 🔗   **Jan. 2025**
- Developed web-based VR tourism platform for immersive destination exploration
- Implemented interactive catalog with categorized VR experiences using Next.js
- Integrated A-Frame for high-quality VR playback across devices

Problem Solving

- LeetCode — Contest Rating: 1435
- Codeforces — Max Rating: 732

Technical Skills

Languages: C++, C, Java, Python, HTML/CSS, MATLAB
Tools: VS Code, GitHub
Technologies: Django,Flask,Arduino, IoT, Linux (Ubuntu)

Leadership & Activities

National Service Scheme (NSS)   **RV College of Engineering**
Volunteer   *2023–Present*
- Participated in awareness on alzheimer's disease
- Coordinated social impact events for campus and local community