

# ARANYA BAHUGUNA

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## Education

Vellore Institute of Technology  
B. Tech CSE(Core)

CGPA: 8.72

(Expected May, 2026)

## Technical Skills

- **Languages:** Java, JavaScript, SQL
- **Frontend:** React.js, Tailwind CSS, Bootstrap, HTML, CSS
- **Backend:** Node.js, Express.js, REST APIs, JWT, RBAC
- **Databases:** MongoDB, PostgreSQL (Supabase), MySQL, Firebase
- **Tools & Platforms:** Git, GitHub, Postman, AWS (Basic), Figma.
- **Relevant Coursework:** Data Structure and Analysis of Algorithm, Operating Systems, Computer Networks, Database Management.

## Projects

### SOS-Service

Node.js | Express.js | React.js | Supabase (PostgreSQL)

Sep 2024 – Feb 2025

- Architected a full-stack solution leveraging React.js and Node.js/Express to enable real-time emergency event handling and seamless frontend-backend synchronization.
- Engineered a data-driven infrastructure using Supabase (PostgreSQL) and REST APIs, incorporating Google Maps and GeoHashing for precise location-based tracking and visualization.
- Integrated YOLOv8-based machine learning services into the backend pipeline to automate emergency detection and fire-severity classification from incoming visual data.
- Strengthened system-wide security by implementing AES-256 encryption and Role-Based Access Control (RBAC) to ensure end-to-end protection for sensitive data.

### Inventory Management

MongoDB | Node.js | Express.js | React.js

Jan 2025 – Feb 2025

- Architected and developed a comprehensive MERN-stack infrastructure, building a responsive React.js frontend and a high-performance Node.js/Express backend to manage end-to-end inventory lifecycles.
- Engineered a scalable data layer and communication bridge by designing optimized MongoDB schemas and RESTful APIs, ensuring seamless data flow and real-time synchronization between the UI and database.
- Hardened system security by implementing robust authentication and authorization protocols using JWT, crypt, and custom RBAC (Role-Based Access Control) middleware.
- Enhanced database performance through advanced schema modelling and query optimization, significantly reducing latency and ensuring data consistency across complex inventory transactions.

### AES Image Encryptor

Feb 2023 – May 2023

HTML | CSS | JavaScript

- Developed a comprehensive full-stack architecture by integrating a responsive HTML/CSS/JavaScript frontend with robust client-side logic to facilitate seamless, end-to-end image processing.
- Engineered a synchronized data pipeline that bridges frontend user interactions with backend workflows, ensuring smooth transitions during image upload, processing, and retrieval phases.
- Implemented rigorous security protocols using AES-256 encryption algorithms to ensure that image data remains confidential and protected against unauthorized access throughout the lifecycle.
- Streamlined the deployment lifecycle by hosting the application on GitHub Pages, ensuring high accessibility and a reliable environment for end-user interaction.

## Internship

### Indian Space Lab – Drone Technology Intern

- Gained hands-on experience with UAV design, flight control systems, and autonomous navigation.
- Worked with mission planning tools and explored applications in aerial surveying and remote sensing.
- Developed foundational understanding of real-world engineering systems and data-driven navigation.

## Extra-Curricular and Achievements

- Runner-up, Ecom-Thon: Pitched a tech-based solution at a competitive tech-cultural fest.
- Core Member, NSS VIT Bhopal: Completed 240+ hours of community service; awarded NSS 'B' Certificate.
- Founder & Coordinator, Pahadi Club VIT Bhopal.
- Sports: Cricket – Winner (Aarambh 2022), Runner-up (Advitiya 2023).

## Additional Information

- Hobbies: Playing Guitar, Gaming, Cooking, Writing, Sports.
- Languages: English (Professional working proficiency), Hindi (Native or bilingual proficiency).