

GUNJESH KUMAR

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EDUCATION

Gayatri Vidya Parishad College of Engineering (A)

Visakhapatnam, India

B.Tech in Information Technology, **CGPA: 7.91/10**

June 2022 – Present

- Core Coursework: Data Structures & Algorithms, Object-Oriented Programming, Software Engineering, DBMS, OS, Computer Networks.

EXPERIENCE

CSIR - Central Road Research Institute

New Delhi, India

Software Engineering Intern

Apr – May 2025

- Built a Flask microservice for Road Safety Index, implementing **RESTful API design** to expose real-time data to dashboards.
- Optimized video ingestion pipeline using multi-threaded OpenCV, reducing processing time by 35%.
- Implemented YOLOv8 detection modules in PyTorch, achieving 25 FPS inference for hazard alerts.
- Collaborated via Git, Jira, and Agile sprints, performing code reviews and mentoring interns.

GirlScript Summer of Code

Remote, India

Open Source Contributor

May – Aug 2024

- Optimized JavaScript code in open-source projects, reducing API latency by 20%.
- Developed unit tests using Jest and PyTest, achieving 85%+ code coverage.
- Collaborated globally via GitHub, following CI/CD pipelines and best practices.

PROJECTS

Counselling Forms Platform | React, Node.js, Express, Socket.io, JWT, MongoDB

GitHub

- Implemented a multi-step dynamic form in **React**, complete with **real-time validation**, **conditional rendering**, and global state management via Context API, improving user input accuracy and reducing form errors.
- Developed **RESTful APIs** in Express with **MongoDB schema** design, including indexing and middleware for **CRUD operations**, supporting 500+ submissions daily and ensuring **data consistency**.

Road Safety Index Scoring System | Python, Flask, TensorFlow, PyTorch, YOLOv8, Docker

GitHub

- Preprocessed road video datasets in **Python**, applying frame extraction, normalization, and basic augmentation; trained a custom **YOLOv8 model** in **PyTorch** to detect five hazard types with **90% mAP**.
- Built a **Flask backend** exposing hazard detection and risk scores via **REST** endpoints, and created a simple web interface to visualize detection boxes and dynamic risk metrics for end-user interpretation.

TECHNICAL SKILLS

- Languages:** C, C++, Python, JavaScript, TypeScript, HTML, CSS
- Frameworks & Libraries:** React, Angular, Node, Express, Spring Boot
- Databases:** MongoDB, MySQL, PostgreSQL, Firebase
- Tools:** Git, SonarQube, Docker, Postman, Jenkins, Swagger, AWS
- Practices:** Git-based version control, RESTful API design, Microservices Architecture, Unit & Integration Testing, Dockerization, Agile Methodologies

ACHIEVEMENTS

- Rated **1739** on LeetCode, **2★ (1511)** on CodeChef, and **1654** on GeeksforGeeks across 30+ contests.
- 700+** problems solved across LeetCode, GeeksforGeeks, and CodeChef.
- As **Cybersecurity Lead at GDSC GVPCE**, organized **5+ CTF events** and expert sessions, impacting **100+ students**.
- Top 50 Mentor** in GirlScript Summer of Code 2024, led **15+ contributors** to deliver **10+ open-source projects**.