

Mrinank Gaur

+91 9311576661 | mrinank2484@gmail.com | [LinkedIn](#) | [GitHub](#) | [LeetCode](#)

PROFESSIONAL SUMMARY

Highly motivated Electronics and Communication Engineering undergraduate with strong foundations in full-stack web development, digital design, and robotics. Demonstrated ability to deliver real-world solutions—from embedded systems and SoC architectures to modern MERN applications. Known for a hands-on approach, rapid learning, and collaborative project work. Passionate about system integration, automation, and building tools that bridge hardware and software.

EDUCATION

Vellore Institute of Technology

Bachelor of Technology in Electronics and Communication Engineering

2022–2026

CGPA: 8.94/10

The Khaitan School

Class XIIth (CBSE)

2022

Percentage: 89.2%

EXPERIENCE

Robotics Engineer

Oct 2023 – May 2025

Technocrats Robotics, VIT University

Vellore, India

- Designed and implemented 8-axis movement control and calibration for an autonomous rover project
- Integrated Arduino and Raspberry Pi with ROS for sensor fusion, motor control, and remote communication
- Collaborated with a team to develop modular software for real-time motion planning and diagnostics

Digital Design Intern

May 2024 – July 2024

Maven Silicon

Chennai, India

- Designed and implemented an APB to AHB bridge as part of a System-on-Chip (SoC) integration project
- Utilized VHDL and Verilog for RTL design and verification of bus protocols
- Worked with Cadence tools for simulation, synthesis, and functional verification of digital designs

PROJECTS

ProdTrack – Productivity Tracker | *MongoDB, Express.js, React, Node.js, JWT*

Jan 2025 – Mar 2025

- Developed **ProdTrack**, a full-stack task and productivity tracker web app using the MERN stack
- Implemented secure user authentication using JSON Web Tokens (JWT) stored in HTTP-only cookies
- Built RESTful APIs with Express.js and Node.js for managing tasks, updates, and user sessions
- Designed a responsive React frontend with contextual state management using hooks and context
- Integrated MongoDB for dynamic, schema-flexible task storage and scalability

Number Plate Recognition | *Python, OpenCV, EasyOCR, ESP32, HTML/CSS*

Jan 2025 – Mar 2025

- Built a complete number plate recognition system integrating embedded hardware and computer vision
- Used ESP32-CAM to capture vehicle images and send them to a Python-based server via HTTP for processing
- Hosted a custom HTML/CSS web interface on the ESP32 to allow users to trigger image capture with a user-friendly GUI
- Applied OpenCV for image preprocessing and EasyOCR for extracting license plate text from images
- Enabled real-time image transmission and recognition over local network using lightweight protocols

Email Authentication Kit | *MongoDB, Express.js, React, Node.js, Nodemailer, Handlebars*

Jan 2025 – Mar 2025

- Developed a full-stack email authentication system using the MERN stack with secure verification flow
- Integrated Nodemailer with Handlebars to send dynamic, well-formatted verification emails
- Implemented token-based email verification logic with expiration and secure user validation
- Created a responsive frontend in React with real-time form validation and feedback
- Built scalable RESTful APIs in Node.js and Express.js, with MongoDB for storing users and tokens

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, Java, VHDL, Verilog, C/C++, SQL (Postgres), HTML/CSS
- **Frameworks:** React, Node.js, Express.js, Flask, FastAPI, Material-UI
- **Developer Tools:** Git, Docker, Cadence, ESP32, Raspberry Pi, Arduino, VS Code
- **Libraries:** OpenCV, EasyOCR, Handlebars, pandas, NumPy, Matplotlib
- **Other Technologies:** MongoDB, PostgreSQL, JWT, Nodemailer, Redis, Celery, ROS