

# RAJAT KUMAR THAKUR

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## Education

**Indian Institute of Information Technology Vadodara**

**November 2022 – June 2026**

*Bachelor of Technology in Computer Science and Engineering (GPA:- 9.46)*

*Gujarat, India*

## Work Experience

**Summer Intern**

**May 2025 - July 2025**

*IIT Gandhinagar*

*Gujarat, India*

- Developed Language Models for code generation and execution on resource-constrained devices for analysis under 3s.
- Optimized SLMs, reducing inference latency by 46.3% for TinyLlama and achieving 2.57 s for StarCoder

## Projects

**Github Repository AI Readme Generator** [\[Live Link\]](#) | *Next.js, REST API, Gemini AI, Tailwind CSS* **June 2025**

- Developed an AI powered README generator that solves manual documentation, producing READMEs in under 10s.
- Integrated GitHub REST API, custom prompts, and one click export to eliminate erros, supporting 200+ users.

**Edge, Corner and Pose Estimation for Pick and Place Applications** [\[Link\]](#) | *Computer Vision* **April 2025**

- Prepared an 4x faster pipeline for pose estimation in point clouds using surface variation and Harris Corner detection.
- Achieved a 70% reduction in computation time (from 26.8s to 7.9s) compared to state-of-the-art methods.

**Low Light Image Enhancement using Deep Learning** | *Deep Learning, Image Processing* **February 2025**

- Executed a 2 phase approach for enhancing low-light images using Decomposition and Refinement techniques.
- Utilized Retinex theory, HSV transformations, and frameworks to achieve brightness and contrast enhancement by 90%.

**File Sharing Web App** [\[Link\]](#) | *MERN* **November 2024**

- Built a full-stack file sharing platform with automated email integration and managing 1000s of concurrent users.
- Added an email automation feature that sends personalized download messages, improving user engagement by 70%.

**Restaurant Mangament System in Assembly** [\[Link\]](#) | *x86 Assembly Language* **August 2024**

- Accelerated Microsoft Macro Assembler based RMS food service operations for reducing order processing time by 70%.
- Utilized MASM32 to manage bill history, retrieving 1000s of records and automating bill generation for restaurants.

## Relevant Coursework

- |                        |                       |                    |                           |
|------------------------|-----------------------|--------------------|---------------------------|
| • Data Structure       | • Database Management | • Algorithms       | • Computer Networks       |
| • Software Engineering | • System Software     | • Machine Learning | • Artificial Intelligence |
| • Image Processing     | • Data Analytics      | • Cryptography     | • Operating System        |

## Technical Skills

**Languages:** C, C++, Python, R, JavaScript

**Databases:** SQL, MongoDB, PostgreSQL

**Developer Tools:** VS Code, Google Cloud Platform, Archimate, StarUML, Jupyter Notebook, TensorBoard

**Technologies/Frameworks:** Next, React, Node, Linux, Git, Postman, Express, Selenium, Tailwind, TensorFlow

**Cloud Platforms:** Google Cloud Platform (GCP), Firebase

**Libraries & Tools:** NumPy, Pandas, Pytorch, Matplotlib, GitHub Actions, Docker (basics)

## Additional Experience

**Teaching Assistant for Software Engineering & C Programming Courses** **August 2024 - April 2025**

- Mentored 90+ students in designing and implementing scalable software solutions for real-world use cases.
- Assisted 100+ students in developing analytical and programming skills during their C lab sessions.

**General Secretary of Academics Committee** **May 2024 - April 2025**

- Led a team of 8 members in planning and executing academic-focused events during the academic year.
- Played a key role in organizing and promoting initiatives and 10+ academic proposals to enhance student engagement.

## Achievements

- Secured 2nd Rank in Battle Bots and Sentience event at IIITV-ICD Horizon TechFest.
- Designed a robotic hand to replicate human gestures with 90%+ accuracy and developed a Wi-Fi combat robot.

## Extracurricular

- Attained mastery of complex algorithms through completing 500+ challenging problems across platforms. [LeetCode](#)
- Earned an NVIDIA Certificate of Competency in Evaluation and Light Customization of LLMs. [Certificate](#)
- Finished a comprehensive 12 hour online training specializing in deep learning offered by NVIDIA. [Certificate](#)