

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

Collaborative Whiteboard App [\[Live Link\]](#) | *Vite, WebSockets, Typescript*

July 2025

- Built an interactive whiteboard supporting real-time drawing an 50+ simultaneous concurrent user events per session.
- Implemented session persistence and export features, enabling users to save/share over 200+ drawings in PNG formats.

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.

Accelerated Feature and Pose Estimation for Time-Critical 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%.

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](#)