Rajat Kumar Thakur

📞 8810544717 ✉ rajatlovescloud@gmail.com 🔗 linkedin.com/in/rajat-kumar-thakur ⚲ github.com/rajat-kumar-thakur

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.

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%.

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