RAKSHIT KUMAR

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Education

SRM Institute of Science and Technology **Aug 2023 – May 2027**
Bachelor of Technology in Computer Science | CGPA: 9.21 *Chennai, India*

Experience

Indian Institute of Information Technology Allahabad **May 2025 – July 2025**
Research and Development Intern *On-site*
- Developed an **edge-AI systems** on **Raspberry Pi 5** with **AI HAT+ (13 TOPS)** for task driven object detection using **TFLite SSD-MobileNet** and **YOLOv11** models.
- Integrated **LLMs (Phi-2, Gemma, Qwen)** via **llama.cpp** with **Chain-of-Thought (CoT)** prompting to reason about object suitability.
- Built a **real-time PiCamera2 + Vosk speech system** for multimodal interaction and filtered bounding boxes using LLM responses.
- Benchmarked LLM's across six metrices, monitored system performance with **nmon** and **Matplotlib**, and **plotting comparative graphs**.

Liftoff, CTECH Association **Chennai, India**
Technical Head (2024-25) *Sep 2024 – Present*
- Led the design and development of dynamic web applications, significantly **improving** the **club's digital presence** and **user engagement**.
- Guided a team of developers, **providing mentorship** and ensuring high code quality through regular reviews and best practice implementations.
- Collaborated with cross-functional teams to plan and **execute technical workshops and events**, fostering skill development and knowledge sharing across the club.

Projects

Cuvette Clone **Dec 2024 – Jan 2025**
- Recreated key **student-side features** of Cuvette.tech, including internship browsing, login/signup, and application functionality.
- Built a responsive student dashboard for managing profiles and tracking internship applications using **React.js, Node.js, Express.js, and MongoDB**.
- Designed with a focus on intuitive UI/UX to simulate real-world internship application workflow.

Real-Time Multiplayer Chess Game **Jun 2025**
- Developed a web-based multiplayer chess game enabling real-time gameplay using **Socket.io** for bidirectional WebSocket communication and **Chess.js** for move validation and game logic.
- Designed a role-based player system (white, black, spectator) with synchronized game state across clients using **FEN notation.**
- Built an interactive drag-and-drop chessboard interface with **Node.js**, styled with **Tailwind CSS**, and rendered using **EJS templating and express.js.**

Stock Market Price Predictor **July 2025 – Sep 2025**
- Developed a **ML/DL** forecasting pipeline (Random Forest, SVR, Lasso/Ridge, Gradient Boosting, MLP, LSTM, GRU) on Adani Ports dataset to generate short- & long-term stock price predictions, evaluated via MSE, MAE & R^2.
- Integrated **sentiment analysis** from ~1.39M financial tweets with technical indicators to enhance model robustness and capture market psychology.
- Built end-to-end workflows (data cleaning, feature engineering, scaling, visualization, benchmarking) to streamline model comparison and deliver investor-ready insights.

Professional Skills

Languages: HTML, CSS, Tailwind CSS, JavaScript, C, C++, Python
Frameworks/Libraries: React.js, Node.js, Express.js, Redux, OpenCV, NumPy
Technical Skills: Data Structures and Algorithms, Object Oriented Programming, Operating System, Embedded Systems, Raspberry Pi Development
Tools/Databases: Git, GitHub, MySQL, MongoDB, Version Control

Achievements

- **Award of Excellence during IIIT Allahabad internship**, honored for outstanding contribution in building an edge-AI task driven object detection system with Raspberry Pi 5, AI HAT+ (13 TOPS) and LLM integration.