

# RONIT RAJ

LinkedIn



8102624252



dev.ronitraj@gmail.com



Github

## Education

**Indian Institute of Information Technology and Management, Gwalior**

**August 2023 – Present**

*Bachelor of Technology in Information Technology — CGPA: 8.75*

*Gwalior, Madhya Pradesh*

**MB DAV Public School (2012 – 2021)**

*Class X — Percentage: 93.6%*

**Greater Triveni Public School (2021 – 2023)**

*Class XII — Percentage: 94.2%*

## Relevant Coursework

- Data Structures
- Algorithms Analysis
- Multivariate Data Analysis
- Operating System
- OOPs
- Database Management
- Software Engineering

## Experience

**Garudex Labs**

**November 2024 – Present**

*Co-Founder*

*Gwalior, MP*

- Built a Multi-Modal LLM bot processing 20+ images locally on an 8GB RAM laptop, optimized for speed and resource constraints
- Working on a Graph Neural Network (GNN) for traffic analysis to model and optimize urban traffic flow based on real-world data.

## Projects

**Tactical and Strategic Military System** | *Next.js, Tailwind-CSS, Fast API, Pytorch, Python, Redis* **December 2024**

- Developed a high-performance Multi-Modal LLM for efficient local processing of images, videos, and PDFs, achieving 79% accuracy in VQA tasks.
- Integrated Retrieval-Augmented Generation (RAG) into the MLLLM to enhance contextual understanding and response accuracy
- Integrated the Multi-Modal LLM with the backend to enable seamless processing and efficient data flow.
- Integrated Redis for caching in the chat window, improving response speed and reducing backend load.

**Ionia – A Comprehensive End-to-End JEE Testing System** | *Next.js, Javascript, Express.js* **February 2025**

- Implemented a robust authentication system with role-based access control for users and administrators.
- Developed an admin panel for managing questions and test series, reducing test management time by 30%.
- Built a testing window for 50+ students to take exams and receive detailed performance analysis.
- Optimized image uploads with Cloudinary CDN, cutting load times by 35% and enhancing test accessibility.

**Implemented a Diffusion Model from Scratch** | *Pytorch, Python* **December 2024**

- Developed a diffusion-based generative model from scratch, implementing both forward and reverse processes. Leveraged PyTorch/TensorFlow for scalable implementation. Optimized inference pipeline, reducing image generation time by 20% and improving output quality.

**GeneTrust-AI-Powered CRISPR Intelligence** | *Next.js, TypeScript, Express.js, FastAPI* **April 2025**

- Built GeneTrust, a backend system using Node.js, TypeScript, and DNABERT model for CRISPR intelligence, processing over 100+ sequence analyses.
- Deployed AI services (e.g., Groq API) for complex genetic sequence comparison and ranking, reducing analysis time by 20%.
- Handled real-time analysis requests and status updates via WebSockets.
- Implemented a full CI/CD pipeline using GitHub Actions and GCP (Cloud Run/Build), enabling automated testing and deployment in under 3 minutes..

## Technical Skills

**Artificial Intelligence:** ML, NLP, DL, RL, GANs, MLLMs, , CV, Stable Diffusion, Neural Networks, Graph Neural Network

**Languages:** Python, C, C++, JavaScript, SQL, HTML, CSS

**Technologies/Frameworks:** PyTorch, PyG, TensorFlow, Express.js, Next.js, React, Node.js, Prisma ORM, Mongoose ORM

**Databases:** MySQL, MongoDB, Faiss, PostgreSQL, MS SQL Server

**Other Skills:** GitHub, Git, DBMS, AWS, Docker, GCP

## Leadership / Extracurricular

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- Smart India Hackthon Special Winner 2024
- Co-Founder, Garudex Labs — Developing scalable models to optimize India's traffic system. Top 5 out of 40 teams, Best Startup Pitch, IDE Bootcamp 2025.
- Led E-Cell initiatives, organizing debates and quizzes for 50+ students, enhancing entrepreneurial engagement
- Member, Manchtantra (Dramatics Club) — Performed street plays (Nukkad Natak) on social issues and represented the club at IIT BHU's cultural fest.
- Robotics Event Head @ Infotsav (Tech Fest, ABV IIITM Gwalior) – Led a team of 20+ volunteers to organize robotics events at IIITM Gwalior's tech fest, attracting 30+ participants.
- Started of The Enigma Society – Established a club focused on tech discussions and mentorship, conducting multiple sessions for 200+ students.