

Ritik Raj

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LinkedIn • Github • Codeforces • Leetcode • Personal Portfolio



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2023-2027	Bachelor of Technology (Computer Science and AI)	Newton School Of Technology, Rishihood University	8.57/10.0

EXPERIENCE

Haystack (deepset-ai) December 2025 - July 2026
Open Source Contributor *Remote*

- Contributed **11 merged PRs** and **2 improvement proposals** to Haystack's LLM orchestration framework.
- Fixed **telemetry decorator metadata** loss and added targeted tests for function metadata preservation issues.
- Secured **ByteStream/converter symlink** handling and fixed **NamedEntityExtractor device-state restoration** bugs.

Co-Founder & Sole Engineer December 2025 - Present
Seedite *Remote*

- Solo-built** the production **Node.js/Express backend** for **300+ users**, owning architecture, security, and deployment end-to-end.
- Configured **Razorpay payments** with **HMAC-SHA256 webhooks**, idempotent enrollment, and **Google OAuth 2.0**.
- Architected **B2B multi-tenant** licensing with analytics and **single-device** sessions; secured videos with **Bunny Stream** URLs.
- Structured a Gemini-powered admin query engine with operation whitelisting and AI-based read-only validation for secure access.

INTERNSHIPS

Physics Wallah January 2025 - July 2025
Tech Engineering Intern *Noida*

- Created reusable **TypeScript, Next.js, Tailwind CSS** components for production CMS interfaces across multiple PW platforms.
- Maintained the internal **UI library** serving **1.5M+ DAU**, fixing component defects and implementing requested changes.
- Integrated **Otpless authentication SDK** into production login workflows and performed technical testing across critical flows.
- Programmed a **gamified learning prototype** with battles, points, unlocks, and competition; ranked **Top 10/50+ teams**.

PROJECTS

Razorpay Merchant Onboarding AI Agent ([Github](#)) ([Demo](#)) August 2026

- Built a **multi-agent pipeline** across 4 microservices to verify merchants, cross-check websites, and generate risk scores in **30–60 sec**.
- Orchestrated asynchronous workflows using **RabbitMQ + Celery** and exposed an **MCP server** for merchant self-onboarding.
- Established modular **FastAPI services** with isolated agent responsibilities for automated merchant approval decisions end-to-end.

Fillica AI - Autonomous Job Application Agent ([Github](#)) ([Demo](#)) March 2026

- Architected a hybrid agent combining **Playwright DOM automation** with vision-language reasoning for complex application forms.
- Implemented semantic field disambiguation and iterative reasoning, achieving **85% accuracy across 15+ ATS platforms**.
- Developed **Claude/GPT-4o/Gemini abstraction** with structured outputs across Electron, Next.js, and Node.js applications.

Discrete-Diffusion-Text-Generation ([Github](#)) ([Demo](#)) February 2026

- Pioneered a **17M-parameter Masked Diffusion LM** using a 6-layer DiT with AdaLN and log-linear noise scheduling.
- Trained with **AdamW, cosine LR, antithetic timestep sampling**, and noise-weighted ELBO using SUBS parameterization.
- Applied **EMA (0.9999)** and built a **Gradio demo** for visualizing iterative token denoising interactively.

University Library Cabin Booking ([Github](#)) ([Demo](#)) August 2025

- Engineered and deployed a full-stack cabin booking system serving **800+ users, 2,000+ bookings, and 4,000+ students**.
- Prevented concurrent booking races using a **Node.js mutex** and **atomic MongoDB operations** for safe slot allocation.
- Added **JWT RBAC**, domain-restricted **Google OAuth**, booking workflows, **Zod validation**, rate limiting, and audit logs.

CERTIFICATIONS

Hacktoberfest'24 DigitalOcean ([Link](#)) October 2024
Successfully merged 4 pull requests during Hacktoberfest 2024 across open-source repositories.

SKILLS

- AI/ML:** PyTorch, Transformers, Hugging Face, LLM, RAG, Diffusion Models
- Web/Agentic/Backend:** MCP, FastAPI, Node.js, Express JS, API, Playwright, React, Next.js, Tailwind CSS
- Language:** Python, TypeScript, JavaScript, Java, C, Go, SQL
- Data/Infra:** MongoDB, MySQL, AWS, Docker, Linux, Git and Github, GitHub Actions, RabbitMQ, Celery
- Coursework:** Data Structures and Algorithms, DBMS, Computer Networks, Machine Learning, Deep Learning (DL)

ACHIEVEMENTS

- Content Creation:** Built a YouTube channel with **250K+ total views** covering AI, technology, education, and emerging trends.
- Hackathons:** Participated in the **Razorpay AI Buildathon, Tech-Sangam 2025, and Re-Imagine Hackathon 2024**.
- Quantum Computing Research:** Implemented the **HHL algorithm** using **Qiskit** for quantum linear-system solving.

EXTRA-CURRICULAR ACTIVITIES

- Competitive Programming:** **1000+ DSA** problems solved across LeetCode, Codeforces & others.
- Tech-Sangam:** Ranked **Top 10 among 50+ teams** at the PW + AWS hackathon with a gamified student-learning prototype.