

Ravi Yadav

Phone: +916350225693

Email: ravi.y23csai@nst.rishihood.edu.in

LinkedIn • Github • Leetcode • Personal Portfolio



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2023-2027	Bachelor of Technology (Artificial intelligence)	Newton School of Technology , Rishihood University	7.05/10.0
2021-2022	Intermediate (Class XII)	Malviya Convent School	83.0%
2019-2020	Matriculation (Class X)	St. Edmund's school	91.1%

ACHIEVEMENTS

- **IEEE PES Energy Shark Tank 2026:** FlexGrid pitch in the Top 5 at APPEEC, Singapore; 3rd on the final leaderboard.
- **NST Startup Foundry 2026:** 1st for Jarvis (AI personal intelligence); pitched to Google Cloud and Microsoft for Startups.
- **JEE Advanced 2023:** AIR 6522 (180,000+ candidates). **JEE Main:** 97.84 percentile (1.1M+ candidates).
- **Jaipur Under 16 Cricket Team :** Represented Jaipur at the Under 16 level, developing teamwork, and leadership.

INTERNSHIPS

Software Engineer Intern

January 2025 - April 2025

Algocept

Remote

- Resolved **20+ UI/UX and responsiveness issues** in a **React.js** and **Tailwind CSS** admin dashboard, so it behaves consistently on desktop, tablet and mobile.
- Cut initial dashboard load time by **~50%** by adding **server-side pagination** to a list of **500+ users**, fetching one page at a time instead of every record at once.
- Developed a **RESTful API** with **NestJS**, **TypeScript** and **MongoDB** supporting **3 country-specific configurations**, so each region serves its own footer content without frontend code changes.

PUBLICATIONS

KAT-PatchTST: Physics-Informed Forecasting with Kirchhoff Conservation, 18th Asia Pacific Power and Energy Engineering Conference (IEEE APPEEC) — Singapore August 2026

- C. Murali Madhav, **Ravi Yadav (2nd author)**, K. Mehra, A. Tewary and S. Aggarwal. **Accepted and presented** at IEEE APPEEC 2026, Singapore (Paper ID 190); publication in the IEEE conference proceedings is pending.
- Proposed a **physics-informed load forecaster** combining PatchTST, TimeXer and a **Kirchhoff conservation regularizer**, reaching **3.65% MAPE** on the U.S. EIA-930 grid dataset across **six balancing authorities**.
- **Provisional patent filed** for the method. The paper is Stage 1 of the Watt-IF research project; Stages 2–3 (balancing-authority interchange feasibility and grid partitioning to cut allocation failures) are **targeting ICML** submission.

PROJECTS

Document Search Engine ([Github](#)) ([Demo](#))

October 2026

- Keyword search over a growing document library must stay relevant and fast, but ranking every document in application code **slows down as data grows** and misses word variants (e.g. budgets vs. budget).
- Built and deployed a search engine over **10,000+ documents** using **PostgreSQL full-text search** (tsvector, GIN index, ts.rank) and a **cosine-similarity ranker built from scratch**, compared live side by side in the UI.
- Made lookups **~35–45× faster** (measured with EXPLAIN ANALYZE) using composite indexes, relational division and anti-joins, with search under **20 ms**. Backed by **50 automated tests**, including integration tests on real PostgreSQL.

PrepLens ([Github](#)) ([Demo](#))

September 2026

- When a company visited campus, students across a college of **~2,000** spent hours on unstructured prep, studying random topics without knowing what that company actually asks in each round.
- Built and deployed a **full-stack platform** where seniors share **round-by-round interview experiences**, with college-only Google sign-in, an audited moderation queue and weighted full-text search on **MongoDB** indexes.
- Gave students focused, company-specific prep in one searchable place, aiming to save **10+ hours** of random prep per company. Secured with **Zod** and **rate limiting**, backed by **117 automated tests** on an isolated test database.

SKILLS

- **Computer Language:** SQL, HTML, CSS, JavaScript, Python
- **Courses:** Data Structure, Analytics
- **Databases & Data Tools:** MySQL, MongoDB, PostgreSQL
- **AI / ML:** OpenAI API, Machine Learning
- **Cloud & DevOps:** Git and Github, GitHub Actions
- **Frameworks & Libraries:** React, Node.js, Express JS

EXTRA-CURRICULAR ACTIVITIES

- Mentored **10+** students in Data Structures & Algorithms; volunteer at **MoreThanMe** NGO.
- **IEEE Student Member :** Engaged with IEEE's student and professional engineering community.