

Arnav Pratap

+91 9304318223 ✉ arnavpratap2003@gmail.com in linkedin.com/in/Arnavpratap github.com/Arnavpratap2004
🌐 arnavpratap.tech

Professional Summary

- CSE undergraduate (CGPA: **9.07/10**) with hands-on experience in full-stack development, serverless AWS architectures, and applied NLP research — building systems deployed to real users.
- Research Intern at IIT Patna (NLP/RAG); shipped production web platforms and cloud-native pipelines; strong across backend engineering, ML integration, and system design.

Education

Vellore Institute of Technology, Vellore

B.Tech in Computer Science and Engineering

2023 – 2027

CGPA: 9.07 / 10

St. Karen's Secondary School

12th Standard (CBSE)

2020 – 2022

86%

Technical Skills

- **Languages:** C++, Python, Java, JavaScript / TypeScript
- **Backend:** Node.js, Express.js, Next.js 14, Prisma ORM, REST APIs, WebSockets, JWT, NextAuth.js
- **Frontend:** React.js, shadcn/ui, Tailwind CSS, Recharts
- **Databases:** PostgreSQL, MongoDB, MySQL, Redis, DynamoDB
- **Cloud & Tools:** AWS (Lambda, S3, DynamoDB, Textract, Comprehend, IAM), Git, Postman
- **ML / NLP:** RAG, Hugging Face Transformers, LangChain, LLM APIs, Prompt Engineering

Experience

Indian Institute of Technology, Patna (IIT Patna)

Research Intern

Hybrid

June 2025 – August 2025

- Designed **CAD-RAG** (Context-Aware Dynamic Rationale Generation) to detect implicit and evolving hate speech in social media, addressing contextual drift beyond static classifiers.
- Built a dynamic knowledge base with an evolving slur lexicon, entity-level knowledge graphs, and historical incident data for real-time contextual grounding.
- Developed a multi-query retrieval pipeline capturing lexical, temporal, and relational signals — enabling detection of previously unseen zero-day hate speech patterns.
- Evaluated on **45k+ labeled samples**; achieved **~15–18% macro-F1 improvement** over Logistic Regression and BiLSTM baselines; reduced false negatives on emerging slurs by **~22%**.

Projects

Homelia | *Full-Stack Web Platform*

React, Node.js, PostgreSQL, Redis, Next.js, Prisma

- Built a production-grade web platform with a Node.js/Express backend, React frontend, and a parallel Next.js + Prisma cloud backend — all running concurrently without codebase interference.
- Integrated Redis for caching, PostgreSQL as primary datastore, and designed a mobile companion app architecture with a two-stage AI-assisted prompt workflow.

StockSense | *Stock Maintenance System*

Next.js 14, Prisma, PostgreSQL, NextAuth.js, shadcn/ui

- Developed a role-based stock management dashboard with NextAuth.js authentication, Recharts analytics, and a Bloomberg-inspired dark UI — built on the Next.js 14 App Router.
- Designed full Prisma schema with seed data, middleware-enforced RBAC, and real-time inventory tracking with sub-second query performance.

Mess Feedback System | *Campus Platform*

HTML, CSS, JavaScript

- Deployed campus-wide feedback system across multiple hostel blocks; collected data from **500+ students** and automated analytics, cutting admin reporting time from days to minutes.

Leadership & Extracurriculars

- **Junior Core Head**, Alpha Bio Cell (ABC Club) — led technical execution for the club's flagship annual event.
- Architected and deployed a **real-time auction platform** (WebSockets) handling **300+ concurrent users** with zero downtime.
- Competed in multiple **48+ hour hackathons**, delivering functional full-stack prototypes end-to-end under tight deadlines.