# Apoorv Nath Tripathi

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## EDUCATION

Apoorv Nath Tripathi completed his Bachelor of Engineering (Honours) from **BITS Pilani, Pilani**, during the period **November 2021 to May 2025**. His academic journey at BITS Pilani provided a strong foundation in computer science fundamentals, problem-solving, and applied engineering concepts, which he later leveraged in research, internships, and production-grade software development.

## EXPERIENCE

1. **Full Stack Developer – Zenopsys.Ai (June 2025 – August 2025)**
   At Zenopsys.Ai, Apoorv worked as a Full Stack Developer, contributing to the development of a production-grade system using **Golang, Next.js, and REST APIs**, following modular and scalable design principles. He built responsive frontend interfaces for document management, sorting, and role-based access control. Additionally, he automated email notification workflows using **AWS SES and AWS Lambda**, implementing event-driven architectures to ensure reliable and scalable communication.
2. **Research Intern – National Chemical Laboratory, Pune (April 2024 – December 2024)**
   As a Research Intern at the National Chemical Laboratory, Apoorv developed a **GUI-based predictive tool** for thermal hazard estimation using the **Inherent Thermal Hazard Index**. His work involved machine learning, data preprocessing, and statistical modeling, contributing to research outcomes that were shortlisted for a **RACPI patent**, reflecting both technical depth and research impact.
3. **Web Development Intern – Indian Red Cross Society (May 2023 – July 2023)**
   During his internship with the Indian Red Cross Society, Apoorv designed and deployed a **full-stack MERN application** for blood donation management. This solution replaced manual processes with a streamlined digital workflow, significantly improving operational efficiency and accessibility for stakeholders.

# PROJECTS

1. **LitedIn – Web Application**
   Apoorv built LitedIn, a scalable **MERN stack application** using **Prisma ORM** for efficient and reliable database access. The platform supports role-based access control, real-time issue tracking, and admin dashboards with audit-ready workflows. UI components and data-fetching strategies were optimized to mirror hostel layouts, resulting in a **100% reduction in issue resolution time**.
2. **ReviewLLM – AI-Powered Analytics Dashboard**
   ReviewLLM is a full-stack analytics dashboard developed using **React, Node.js, and MongoDB**, featuring secure role-based access control. Apoorv designed scalable backend APIs and built a context-aware AI assistant capable of filtering reviews, triggering charts, and driving UI actions. Real-time AI responses and chat streaming were implemented using **Socket.IO and FastAPI**, powered by **Groq LLMs**.
3. **Material Discovery – Machine Learning Project**
   In this project, Apoorv developed a **Random Forest regression model** to predict adsorbent capacity for $CO_2$ **and** $H_2$, achieving **99.2% accuracy** on a dataset of over **90,000 samples**, demonstrating strong expertise in applied machine learning and data modeling.
4. **Employee Payroll Management System**
   A modular and scalable payroll management system was designed using **object-oriented programming principles**, including abstraction and polymorphism. The system efficiently handles employee records, payroll calculations, and dynamic operations.

# TECHNICAL SKILLS

Apoorv is proficient in **C++, JavaScript, and Python**, with hands-on experience in frameworks such as **React.js, Next.js, Node.js, Express.js, and Tailwind CSS**. He has worked extensively with **MongoDB**, and developer tools including **Git, GitHub, and Postman**. His cloud and AI experience includes **AWS (Lambda, SES)**, **FastAPI**, and **LLMs**, supported by strong fundamentals in **Data Structures and Algorithms** and **Object-Oriented Programming**.

# ACHIEVEMENTS

Apoorv secured a **Top 10 finish** in Here's Hackathon by developing a real estate website and achieved a **Top 15 position** in Walmart's Hackathon using Python and DSA concepts. He progressed to the **second round of Flipkart Grid 5.0**, competing among over **150,000 participants**. He has solved **500+ problems** on platforms such as LeetCode and GeeksforGeeks, ranking in the **top 350 at BITS Pilani**. Additionally, he has made **450+ open-source contributions on GitHub**, showcased projects through a personal portfolio, and served as the **Vice-Captain of the college hockey team during BOSM 2023**.