

SCHOLASTIC ACHIEVEMENTS

- Achieved top **7.18 percentile** in **JEE Advanced 2022** examination out of **0.15 million** candidates all over India(2022)
- Accomplished a **98.68 percentile** score in the **JEE Main 2022** exam out of **0.9 million** candidates across India(2022)

PROFESSIONAL EXPERIENCE

TradeVed Fintech Labs | Backend Developer Intern

[May'25 - Jul'25]

A unified wealthtech platform for retail traders to learn, build, backtest, and seamlessly automate their trading strategies

Approach	<ul style="list-style-type: none">Created a 96% accurate strategy visualizer calculating multi-leg options/futures P&L and GreeksIntegrated real-time data via SmartAPI WebSocket, simulated strategies on spot, expiry, volatilityBuilt a scalable Socket.IO server with Redis adapter enabling real-time multiplayer trading gamesDesigned a Redis-based system for matchmaking and game session management using BullMQEngineered secure credit and subscription logics ensuring data integrity with role-based access
Results	<ul style="list-style-type: none">Efficiently hosted on Contabo VPS with Nginx & SSL, cutting costs by 60% through secure hostingDelivered responsive backend supporting real-time trading analytics and multi games workflowsBoosted overall platform stability and system security by 40% via optimized backend processes

Zerolag Private Limited | Full-Stack Developer Intern

[Jan'25 - Mar'25]

A seamless, innovative, data-driven single-screen trading platform for Futures & Options, analytics, and automation

Approach	<ul style="list-style-type: none">Implemented the Black-76 model for futures pricing and Greeks calculation with high accuracyCreated a single-screen trading dashboard enabling real-time monitoring & widget customizationDesigned a Django-based order placement system with models, endpoints, and business logics
Results	<ul style="list-style-type: none">Delivered a responsive trading platform with real-time update and streamlined order managementEnhanced system reliability and performance by optimizing backend workflow and data processing

Teraforge Digital Lab LLP | Full-Stack Web Developer Intern

[Jun'24 - Jul'24]

A startup delivering innovative end-to-end tech solutions, marketing, and growth support for the emerging businesses

Frontend	<ul style="list-style-type: none">Developed a car trading platform using ReactJS, enabling vehicle listing and detailed informationBuilt an intelligent chatbot to assist users in finding their dream cars by gathering their preferences
Backend	<ul style="list-style-type: none">Utilized the Google Firebase backend for the authentication, data storage, and real-time updatesEnabled seamless access to the comprehensive details of listed cars through Rest API integration

KEY PROJECTS

CollabCode Pro | Real-time collaborative AI-powered online coding IDE | Self Project

[Mar'25 - Apr'25]

- Developed a **collaborative IDE** with **Next.js**, **TypeScript**, **Yjs**, persisting document state in **PostgreSQL** via **Prisma**
- Created a virtual **terminal** integrated with a code execution pipeline using **BullMQ**, **Redis**, and **Docker** sandboxes
- Implemented **sandbox images** enforcing strict **resource isolation** and capturing code execution outputs in terminal
- Integrated **real-time AI features** including inline code completions and voice-powered Q&A using **Google Gemini**
- Enabled secure, **video conferencing** with **LiveKit** supporting **text chat** and **screen sharing**, managed via **NextAuth**

NextHire AI | Advanced AI system for Real-time interviews and analytics | Self Project

[Feb'25 - Apr'25]

- Architected a **production-grade AI interview platform** featuring **JWT authentication**, AI-powered **Gemini 2.0** question generation, real-time analytics, and an **admin portal** optimizing evaluation and minimizing hiring overhead
- Orchestrated **AI-driven interviews** using **Gemini**, tailored to **role** and **resume context**, with **automated analytics**
- Implemented **enterprise authentication** with **role-based access**, and validation for handling **resumes** and **media**
- Engineered **admin workspace** with **question bank**, templates, **access links**, and analytics for **data-driven hirings**

MovieLens | Intelligent Movie and TV show database and recommendation platform | *Self Project* [Oct'23 - Nov'23]

- Created a comprehensive **Movie and TV Show** database website showcasing **trending, popular**, and all-time best titles, complete with **ratings, genres, release dates**, popular scenes, trailers, cast details, and detailed information
- Developed **AI-powered natural-language search** using **Node/Express** and **Google Gemini**, converting user queries into TMDB filters for genres, dates, languages, enabling **smart filtering**, tailored delivery and engagement
- Implemented React hooks including **useState, useReducer, Redux Toolkit**, and hooks with **skeleton loading**, efficiently managing state while fetching from the **TMDB API** with optimized performance and seamless interactions

QueryWise | RAG-based AI system for semantic and contextual research | *Self Project* [Nov'24 - Jan'25]

- Engineered RAG system using **LangChain, Elasticsearch**, and **Llama 3.2** to enable **real-time question answering** on current events beyond the **LLM's** training cutoff date by leveraging **semantic search** and **contextual prompting**
- Architected **vector-based** retrieval system achieving **800-token** chunk size and **100-token** overlap for best context
- Created RAG pipeline using **LangChain, LangGraph**, reducing hallucination through **controlled LLM temperature**

EmotionSense | Real-time emotion detection | *Course Project* | ME 228 | Prof. Shyamprasad [Jan'24 - Apr'24]

- Designed and developed a **CNN**-based emotion detection model achieving **63%** accuracy using **Keras** and **TensorFlow**, with advanced **data preprocessing** and **augmentation techniques** to further enhance model generalization
- Implemented efficient **real-time** emotion recognition using **Haar cascades** and **OpenCV** for processing live videos

Line Follower | Arduino-powered line follower Bot | *Course Project* | MS 101 | Prof. Dinesh Sharma [Jan'23 - Feb'23]

- Engineered an **Arduino-powered line follower robot** with a laser-cut chassis and **differential steering mechanism**
- Integrated a **handmade solenoid** and **UV sensors**, with a motorized lever arm for real-time **military mine detection**
- Secured an impressive **top-24** position among **100+** teams in the **competition** with the bot's exceptional performance

Algorithm Visualizer | Dashboards analyzing algorithm efficiency | SOS | MnP Club | IIT Bombay [Sep'24 - Oct'24]

- Architected an **algorithm platform** in **React** with animations, accessibility, and customizable controls for algorithms
- Developed **dashboard** with metrics, charts, and downloadable reports to analyze **algorithm efficiency & scalability**
- Engineered **custom hooks** and utilities to ensure robust state management, maintainable code, and future expansion

POSITIONS OF RESPONSIBILITY

Marketing and Hospitality Coordinator | *Techfest, IIT Bombay* [Mar'25 - Apr'25]

Asia's largest Science and Technology Festival | Footfall: **1,75,000+** | Events: **280+**

- Developed an online portal **digitizing Techfest hospitality** for **10,000+ visitors**, streamlining operational efficiency
- Led a large-scale and highly effective publicity campaign for **Ed-Conclave**, benefiting **40,000+ students** nationwide
- Secured many strategic **sponsorship deals** with leading corporates, ensuring financial support and event success
- Facilitated **10+ workshops** across **4 diverse states** in India, engaging and instructing a total of **3,000+ participants**

TECHNICAL SKILLS

- Languages & Skills** : Python | C++ | C | JavaScript | HTML5 | CSS3 | SQL | Bootstrap 5.2 | Tailwind | LaTeX
- Frameworks & Libraries** : ReactJS | NextJS | NodeJS | ExpressJS | Material UI | Numpy | Pandas | Matplotlib
- Databases & ORM** : MongoDB | PostgreSQL | MySQL | SQLite | Prisma | Redis | Firebase Firestore | Supabase
- Software Tools** : Visual Studio Code | Postman | Docker | Cursor | Arduino IDE | Figma | Fusion | Canva
- Miscellaneous Tools** : Git | Github | Microsoft Clipchamp | VN | CapCut

RELEVANT COURSES UNDERTAKEN

AI & ML	Statistical Machine Learning and Data Mining, Applied Data Science and Machine Learning, Computer Programming and Utilization, Introduction to AI, Data, and Policy *
Math	Calculus I, Calculus II, Differential Equations, Linear Algebra
Physics	Introduction to Classical Physics, Introduction to Quantum Physics
Engineering	Fluid Mechanics, Kinematics and Dynamics of Machines, Solid Mechanics & Strength of Materials, Thermodynamics, Manufacturing Process, Structural Materials

EXTRA-CURRICULAR ACTIVITIES

- Won the kabaddi tournament as captain, conducted by the local **Lalganj School Committee** among **60** teams (2020)
- Successfully completed a year-long program in sustainable development under the **National Service Scheme** (2022)
- Attended a **10-hour Advanced Excel workshop** by the **Corporate Finance Institute**, gaining clear knowledge (2023)
- Awarded the **1st** overall position out of **15+** hostel teams in the prestigious **Gyrations GC** dance competition (2024)
- Mentored **7+ students** in **WnCC Summer of Code** to successfully develop a multi-language online code editor(2024)
- Applied **machine learning** techniques with TensorFlow and neural networks during **WnCC Summer of Code**(2024)