

## 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*

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

### 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*

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

### 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*

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

## 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**

<b>AI &amp; ML</b>	Statistical Machine Learning and Data Mining, Applied Data Science and Machine Learning, Computer Programming and Utilization, Introduction to AI, Data, and Policy *
<b>Math</b>	Calculus I, Calculus II, Differential Equations, Linear Algebra
<b>Physics</b>	Introduction to Classical Physics, Introduction to Quantum Physics
<b>Engineering</b>	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)