Ansh Preet   210100018

Mechanical Engineering   B.Tech.

Indian Institute of Technology Bombay   Gender: Male

DOB: 15/11/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	7.29

PROFESSIONAL EXPERIENCE

Pedigraphy | SDE Intern   [May'24 - July'24]

A platform for creating and preserving family legacies and connections.
- Implemented a protocol for managing **dead** accounts and **merging** existing ones using **Neo4j** graph databases.
- Deployed a referral system with **React** and **AWS**, boosting user acquisition by **30 %** through email outreach.
- Integrated backend with **Firebase** and used **bcryptjs**, **JWT**, and **Joi** for secure authentication and validation.
- Created **10+ APIs** and used **Cypher queries** in Neo4j for complex relationship management and data retrieval.

RichFeyn | Web Development Intern   [June'23 - July'23]

RichFeyn creates smart, automated solutions designed to simplify everyday life in modern households.
- Developed a responsive website with **Django** backend and frontend using **HTML**, **CSS**, **JavaScript**, and Bootstrap.
- Collaborated with a **4-member** team to design in **Figma** and deployed UI on **AWS**, matching brand identity.

KEY PROJECTS

NanoGPT | GPT-2 from Scratch | Self Project   [Feb'24 - Apr'24]
- Developed decoder only transformer using **124 million** parameters, used **Tiktoken** for encoding and decoding tokens
- Improved training speed by **3** times by switching computation from **FP32** to **TF32** and using AMP, which uses **BF16**
- Used optimized CUDA kernels through torch.compile() & **FlashAttention** to further reduce training times by **67 %**
- Used gradient clipping, fused AdamW optimizer and a lr scheduler to achieve a loss of **0.09** in 4 hours on google colab.

Credit Worthiness Predictor | Machine Learning Project | Self Project   [July'24 - Aug'24]
- Conducted **EDA** , data cleaning, feature engineering, and **Chi-Square** test, correlation analysis for variable relationship
- Tested multiple classifiers, with Voting ensemble achieving best performance with **89 % F1** score, **83 %** Test Accuracy
- Used **GridSearch CV** for hyperparameter tuning, evaluated model with **F1** score, **Confusion** Matrix, and AUC-**ROC**

BlogNext | Software Development Project | Self Project   [Oct'23 - Dec'23]
- Developed a comprehensive **blogging** platform using **React**, **Hono**, **Zod**, **JWT**, Tailwind, **Prisma**, and PostgreSQL.
- Designed a complex schema with one-to-many, many-to-many, and self-relations to support dynamic user interactions.
- Deployed the backend on **Cloudflare Workers** for serverless and the frontend on **Vercel** for scalable performance.

Algo Arena | Software Development Project | Self Project   [Dec'23 - Jan'24]
- Built an algorithmic contest platform with **Next.js**, **Express**, **Postgres**, and Judge0 for code execution on **AWS**.
- Automated **boilerplate generation** for **JS, C++**, and **Rust** by integrating GitHub PRs for template creation.
- Utilized **Redis queues** with Judge0 for asynchronous code evaluation and real-time submission status updates.

Sarcasm | Student Alumni Relation Cell | Dean ACR Office | IIT Bombay   [Dec'22 - Jan'23]
- Developed a full-stack web application using **Django** for Crypt Hunt, incorporating a live leaderboard feature.
- Implemented registration functionality, allowing more than **3,000+ participants** to sign up for the event.
- Created **time bonus questions** within the application, enhancing the overall gaming experience for participants.
- Integrated live **social media sharing** to the application, allowing participants to share their current progress.

POSITIONS OF RESPONSIBILITY

Web Coordinator | Student Alumni Relation Cell | Dean ACR Office | IIT Bombay   [Jun'22 - May'23]

Part of a 60 member team responsible for fostering relations among 60K+ alumni and students .
- **Worked** in a team of five , responsible for web presence and social activities led by Student Alumni Relation Cell.
- Developed website for Placement Mentoring Program **(PMP)**, Alumni Student Mentorship Program **(ASMP)** using HTML, CSS, JavaScript , Bootstrap, and Django, resulting **150 % y-o-y** increment of registrations.
- Developed React Native **application**, **Phonathon** which resulted in **300 % y-o-y** increment in the participation.

TECHNICAL SKILLS

- **Programming Languages :** C++ | Python | HTML | CSS | JavaScript | SQL
- **Frameworks/Libraries :** React.js | Express.js | Node.js | Next.js | Django | Postman | Numpy | Pandas | Matplotlib.
- **Coursera Courses :** AI For Everyone and Supervised Machine Learning: Regression and Classification.
- **Mathematics Courses :** Numerical Analysis, Calculus, Linear Algebra, Ordinary Differential Equations, Economics.

EXTRA-CURRICULAR ACTIVITIES

- Completed the **5.5 km** race at Hostel **Crossy GC**, organized by the sports council, representing **Hostel 2**. ('23)
- Maintained a welcoming and organized atmosphere as a receptionist for the Convocation of Seniors.   ('22)
- Completed a year-long course under **NCC , IIT Bombay** as a cadet at 2 MAHR ENGR REG   ('22)
- Achieved a **Black belt** in **Karate** from **Shito-Ryu School of india** after clearing all the stages of belts . ('18)