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B.S.  
Gender: Male  
DOB: 04/06/2004

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2026	
Intermediate	CBSE	St. Mary's Convent Sr. Sec. School	2022	
Matriculation	CBSE	St. Mary's Convent Sr. Sec. School	2020	

Pursuing a **Minor in Artificial Intelligence & Data Science**, CMInDS, IIT Bombay

## SCHOLASTIC ACHIEVEMENTS

- Holding **Department Rank 3** in the Economics Department | Scored a phenomenal **3rd Sem SPI of 9.8** (2024)
- Accomplished a perfect grade (**AA**) in **11** of 26 core courses with more than **9 SPI** in **3** out of 4 semesters (2024)
- Secured an All India Rank of **788** in the **JEE Main** examination among **1 million+** candidates (2022)
- Secured an All India **99.3%ile** among **0.25 million+** candidates who qualified for **JEE Advanced** (2022)
- Awarded **KVPY Fellowship** offered by Government of India for clearing KVPY SX conducted by **IISc** (2022)
- One of the **35** students who got selected for **INMO** from Madhya Pradesh out of **10,000+** students (2021)

## INTERNSHIPS

**Qrta.AI** | *AI Software Developer and Product Management Intern* (May'24-Present)

*A managed-hiring platform that builds trusted connections networking talents and recruiters across the globe*

- Utilizing **OpenAI** and **ElevenLabs** to create a speech-to-speech AI Coach Bot for talent upskilling and assessments
- Developed a **Langchain** based bot for smooth and vibrant talent onboarding, boosting out talent sign up rates
- Attained **92%** custom **intent classification** accuracy on training a rule-based bot using **Support Vector Machines**
- Acquired accuracy greater than **85%** by training a Resume classifier on our custom dataset using **Random Forest**
- Extracted **30k+** resumes from **MongoDB** and applied text pre-processing methods using **NLTK** and **spaCy**
- Devised a filtering algorithm to match candidates with recruiters saving over **15 hrs/week** for our talent partners

**NoQs Digital** | *Software Development Intern* (Dec'23-Jan'24)

*Conferred the **Best Intern Award** and **The Letter Of Recommendation** for outstanding and exceptional performance*

- Increased **CRUD** efficiency by **50%**, by deploying a Google Sheets app with **JS**, **HTML**, and **Google App Script**

## KEY PROJECTS

**Options Pricing Models and Accuracy** | *Finsearch* | *Finance Club* (Jun'23-Aug'23)

- Simulated **Monte-Carlo Equation** by generating **2,50,000** possible paths for the walk of Nifty50, using **python**
- Imitated **Black Scholes Equation** using a **Multi-layered perceptron** model with improved MSE of about **5%**
- Utilized **LSTM** model with 20-day underlying price data, allowing it to capture volatility changes dynamically and reduce the **MSE** by nearly **80%**, overcoming the assumption of constant volatility in the Black-Scholes framework.
- Analyzed the changes occurring in the prize of underlying by observing the variations faced by the **Option Greeks**

**ViBe Basket** | *Data Science Project Intern* (Jul'23-Aug'23)

*Building an AI-powered chatbot streamlining and simplifying group outing planning*

- Part of a team building a real-time **chat-bot** integrated with the **Discord platform** that engages with users in group chats, providing an interactive experience through **direct messages** and **clickable** multiple-choice questions
- Leveraged TensorFlow Hub's **Universal Sentence Encoder (USE)** to compute semantic embeddings for restaurant keywords and user queries and performed **cosine similarity** calculations for personalised restaurant recommendations

**Course Recommender System** | *Data Analytics & Visualization Team* | *UGAC* (Jun'24-Present)

*Helping 5000+ UG students of IIT Bombay to choose courses based on their interest from a pool of 600+ courses*

- Extracted course content of **300+** from academic portal using **Selenium** and vectorized them using **TF-IDF**
- Utilizing **PCA** to improve model efficiency, by reducing the dimensionality of the feature vectors by **20-Fold**
- Using a scoring system to efficiently match student and course clusters, created by deploying hyper-tuned **GMM**

**Optimizing Transformer Current Data** | *Course Project* | *DS203* | *Prof. Vinay Kulkarni* (Jul'23-Nov'23)

- Utilized **EMA** to reduce the choppiness of the **time series** current data collected from a transformer over 285 days
- Used a self-devised **Slope-Filtering** algorithm to classify the days into good, bad, and missing with **85%+** accuracy
- Utilized the good days to fix the bad days with **80%+** accuracy using **Cyclical Encoding** followed by **MLR**

**SpeakSpeare** | *WIDS 23-24* | *Analytics Club* (Dec'23-Jan'24)

- Trained a **Chatbot** using Shakespeare baseline **language modeling** which can be customized to any dataset
- Employed the **Attention Systems** which are utilized to interpret the text along with **Transformer Models**

- Developed an AI agent to play Atari Games, using Reinforcement Learning achieving a **30%** increase in average game score using **Deep Q Networks** with **TensorFlow** and Duelling **Convolutional Neural Networks**
- Trained the RL agent using **Replay Buffers** to stabilize learning by random experience sampling from past
- Implemented **Frame-Stacking** and preprocessing techniques to simplify learning by reducing space-state complexity

**Image Classification using ResNet** | Self-Learning Project

(Sept'23)

- Interpreted the problem of **Exploding** and **Vanishing** coefficients with increasing layers of neural networks
- Employed Residual Neural Network (**ResNet50**) on CIFAR-10 dataset to get a training accuracy of **85%**

**Reinforcement Learning for Stock Trading** | Summer of Code | Web & Coding Club

(Jun'24-Present)

- Created a specialized **OpenAI Gym** environment to simulate stock trading on the data fetched using **yFinance**
- Utilizing **Stable Baselines3** to train reinforcement learning models, achieving an average return on investment (ROI) of **15%** over a simulated trading period, demonstrating the effectiveness of the custom environment and RL

**COMPETITIONS****Equity Research Competition - HDFC Bank** | Finance Club

(Aug'23-Sep'23)

*for finishing 1st among 50+ teams after multiple rounds of extensive presentation and viva*

- Reviewed various financial ratios and utilized them to conduct a detailed fundamental analysis on HDFC Bank
- Gauged investment opportunities in HDFC bank via rigorous Macroeconomics, **SWOT** and **DCF** analysis

**AlgoNinja - Findoc** | All India Algo-Trading Hackathon | Techfest

(Aug'23-Dec'23)

*for finishing in top 10 teams out of 200+ teams after multiple backtesting and presentation rounds*

- Employed TradingView's **PineScript** and Tradestation's **EasyLanguage** to code 30+ algorithmic trading strategies
- Deployed an **LSTM**-based Stock Price Predictor model which produced outcomes with mean difference of about **1%**

**POSITION OF RESPONSIBILITY****Overall Head** | Data Analytics and Visualization Team | UGAC

(Jun' 24-Present)

*Leading a diverse team of 14 students, providing data driven solutions and insights over Institute Data*

- Selected **12** students out of **220+** registrations after carrying out rigorous technical assignments and interviews
- Facilitating **5000+** UG students to pick courses efficiently from **600+** courses based on their interests and needs
- Utilizing the grading statistics from **300+** courses over the past **5** years to obtain insights and highlight trends
- Fetching customer data from **15+** eateries inside the institute to identify demographic trends for strategic planning

**Department Academic Mentor** | Student Mentorship Programme

(Jun'24-Present)

- One of **6** third year students in the department to be selected as mentor after peer reviews and a rigorous interview
- Responsible for providing academic and general counsel to a group of **6** diverse sophomores during their second year
- Actively working on curating and updating Department website by accumulating course reviews from **100+** people

**TECHNICAL SKILLS**

**Programming Languages,** Python, C++, C, NumPy, JavaScript, HTML, CSS, Google App Script, Pandas,  
**Frameworks & Misc.** Matplotlib, Seaborn, Plotly, Scikit-learn, Auto-CAD Fusion 360, SQL, MS Excel, MS Powerpoint, StreamLit, Django, Tensorflow, Pytorch, Keras, LaTeX

**KEY COURSES UNDERTAKEN**

**Data Science & Computer Science** Programming for Data Science, Artificial Intelligence and Data Science, Computer Programming and Utilization, Introduction to ML

**Mathematics** Calculus, Linear Algebra, Real Analysis, Differential Equations, Optimization, Statistics I, Statistics II, Game Theory and Decision Analysis

**Economics** Microeconomics, Macroeconomics, Mathematics for Economics

**EXTRACURRICULARS**

<b>Speaking</b>	<ul style="list-style-type: none"> <li>• Hosted the Department Traditional Day attended by <b>100+</b> students and esteemed professors</li> <li>• Animated a <b>self-composed</b> motivational poem and presented it among <b>100+</b> JEE aspirants</li> <li>• Narrated "<b>Parents vs Children</b>" play for <b>1K+</b> students, with over <b>500</b> YouTube views</li> </ul>
<b>Sports</b>	<ul style="list-style-type: none"> <li>• Part of the <b>Runner-up</b> Team in H1 Cricket Tournament out of <b>14+</b> teams participating</li> <li>• <b>Captained</b> the house, assisted and led the team in <b>20+</b> sports &amp; cultural events for 1 year</li> <li>• Selected in <b>NSO chess</b> in first year after clearing a puzzle round among <b>100+</b> applicants</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Won <b>3rd</b> prize in a competition organized by PWD on <b>Saying No to Drugs Campaign</b></li> <li>• Participated in various <b>tree plantation</b> drives and <b>garbage cleaning</b> sessions during school</li> <li>• Volunteered in a <b>candle-selling drive</b> to aid specially abled children from <b>Manovikas</b></li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>• Received a <b>Merit Certificate</b> at <b>State Level UCMAS Abacus</b> Arithmetic Competition</li> <li>• Enb Buzz - Conceptualized a <b>Blockchain technology startup</b> to unify health ecosystem</li> <li>• Assisted in Handling logistics as an Interview Coordinaator during the placement season</li> </ul>