Akash Vivek Chodankar   190100009

Mechanical Engineering   B.Tech.

Indian Institute of Technology, Bombay   Gender: Male

DOB: 23-05-2001

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2023	
Intermediate	GBSHSE	Dempo Higher Secondary School Of Science Trust Miramar Panaji Goa	2019	86.17%
Matriculation	GBSHSE	A J De Almeida High School Ponda Goa	2017	96.83%

Pursuing Dual **Minors** in **Data Science** and **Computer Science and Engineering**

Scholastic Achievements

- Amongst the top **1.6%** students in IIT-JEE Advanced 2019 taken by more than **0.2** million candidates
- Received the **Science Talent Search Scholarship** given by **Government of Goa** for **5** consecutive years
- Felicitated by the **Indian Medical Association** for exemplary performance in the **S.S.C** exam 2017

Key Projects

Analysis of Face Recognition Techniques | Course Project   *March 2021 - May 2021*
Guide: Prof. Abir De, Course: Introduction to Machine Learning

- Performed a **comparative** analysis of AI algorithms for facial recognition on cropped faces subset of the **Yale** dataset
- Implemented various ML/AI architectures like **logistic regression, SVM, FFNN and CNN** using **Scikit-learn** and **PyTorch** and achieved an accuracy of over **85%** on the test set after a rigorous hyper-parameter tuning
- Improved the test accuracy to a remarkable **95%+** using feature extraction techniques like **PCA** and **VGG16**

NLPlay with Transformers | Seasons of Code   *April 2021 - July 2021*
Web and Coding Club, IIT Bombay

- Explored text processing for **sentiment analysis** on the **IMDB** movie reviews dataset with various parsing techniques implemented using the **NLTK** library and representations such as **Bag of Words, TF-IDF and Word2Vec**
- Deployed NN architectures like **FFNN, RNN and LSTM** in **PyTorch**, achieving a test accuracy of **80%+**
- Understood the working of various transformer models and used the **Hugging Face** library to implement state-of-the-art architectures like **BERT** and **DistilBERT** to achieve an accuracy of over **85%** upon fine-tuning
- Generated **30** articles with over **2000** words each using **transformer** models like **GPT-2** and **T5** across domains

Stock Market Analysis | Summer of Science   *April 2020 - June 2020*
Maths and Physics Club, IIT Bombay

- Studied financial statements with an overview of **Porter's five forces** to analyse their role in **value investing**
- Gained an understanding of **technical analysis** tools such as OBV, accumulation/distribution line and MACD

Quantum Computational Workshop   *August 2020*
Maths and Physics Club, IIT Bombay

- Learned about the fundamentals of **quantum gates** and **circuits** and implemented them using IBM's **Qiskit**
- Implemented the **Deutsch-Jozsa** deterministic algorithm to solve **Deutsch's** problem, explored **Grover's quantum search** algorithm and executed the **BB84** protocol for quantum **encryption** and **decryption** of a message

Zomato Data Analysis | Self Project   *July 2021*

- Analysed Zomato restaurant data to understand the distribution of its partners and services across the globe
- Used various **statistical** techniques and **visualisation** formats like line, box, boxen, violin, pie, scatter plots, histograms and word clouds in order to judge popularity, cost and cuisine variety offered by the restaurants
- Drafted and solved a **regression** problem to predict the expected rating of a restaurant based on its offerings

Focused Ion Beam Induced Deposition (FIBID) | Course Project   *January 2021- April 2021*
Manufacturing Processes, IIT Bombay

- Performed Stopping Range of Ions in Matter **(SRIM/TRIM)** simulations to analyze the effect of varying atomic size, surface element and acceleration voltage on the **ion distribution** and damage in FIBID
- Determined the spring constant for **helical nanospring** and the critical **buckling** load of precursor deposit

POSITIONS OF RESPONSIBILITY

Team Member | Data Analytics and Visualization Team *July 2021 - present*
Undergraduate Academic Council, IIT Bombay
- Selected as one amongst the **11** members out of **70+** applicants based on an analytical assignment and interview
- Responsible for producing formal and informal reports by analyzing **institute data** and data from other sources

Department Academic Mentor | IIT Bombay *May 2021 - present*
Handpicked for DAMP (1/37 out of 137 applicants) based on an extensive interview and peer reviews
- Responsibe for mentoring **7 sophomores** in the department, providing academic guidance and general counsel
- Actively involved in bridging the student-faculty gap and making students' academic experience better by updating **blogs about the mechanical department** and **writing course reviews**

Coordinator | Entrepreneurship Cell, IIT Bombay *June 2020 - March 2021*
Asia's largest entrepreneurship promoting body by NEN | Patronage from UNESCO
- Involved in the ideation of EnB Crusades- a **start-up mentoring** and **funding** program with **50+** start-ups
- Mentored **3** teams for EnB Buzz -a business model-cum-pitching competition and guided them to ideate start-up based solutions to case study topics such as eradicating social stigma, unemployment crisis and the NEP
- Assisted in organising TTMM, an on-spot fundraising platform for start-ups and the first edition of SeedStars

TECHNICAL PROFICIENCIES

- **Programming Languages**: C, C++, Java, Python, R, HTML, CSS, JavaScript
- **Software Packages**: Git, SolidWorks, Microsoft Excel, LaTeX, AutoCAD, CAMotics, CNC Simulator, Qiskit
- **Online Certifications**: Neural Networks and Deep Learning, The Analytics Edge, Basics of Git
- **Languages Spoken**: English, Hindi, Marathi, Konkani

COURSES UNDERTAKEN

Computer Science	Introduction to Machine Learning, Computer Programming and Utilization
Engineering	Fluid Mechanics, Solid Mechanics, Thermodynamics, Manufacturing Processes, Mechanical Measurements, Microprocessors and Automatic Control*, Heat Transfer*
Pure and Applied Sciences	Numerical Analysis, Linear Algebra, Calculus, Quantum Physics and Application, Physical, Organic and Inorganic Chemistry
Others	Economics, Introduction to Electrical and Electronics Circuits, Marketing Management

*To be completed by Nov'21

EXTRACURRICULAR ACTIVITIES

- **Workshops and Competitions**
  - Participated in a team of 4 amongst 15+ groups for programming an **obstacle avoiding nano drone**
  - Successfully completed a workshop on investing in financial markets - fundamental analysis and valuation
  - Successfully completed **virtual stock market** workshop and simulation competition
- **Social**
  - Worked with an NGO to **raise funds** through Milaap for helping people from **disenfranchised communities**, directly impacting **2 million+** tribal lives in **2000+** districts across **10** different states in India
- **Sports**
  - Participated in **state** and **national level** open chess tournaments and achieved a **FIDE** rating of 1241
  - Successfully completed 1 year of training in chess under the **National Sports Organisation**
  - Represented the high school chess team and won **2nd** place at **state level** tournament organised by Directorate of Sports and Youth Affairs, Government of Goa
- **Miscellaneous**
  - Successfully completed **The Bharat Scouts and Guides** syllabus prescribed for scouting
  - Represented high school for **2** years at the **General Knowledge** quiz competition organised by **BITS Goa**
  - Presented with **distinction** certificate twice based on the performance in **Sanskrit** exam conducted across **4** states