Aditya Sugriv Kendre | **200100012**
Mechanical Engineering | **B.Tech.**
Indian Institute of Technology Bombay | **Gender: Male**
DOB: 21/03/2002

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	8.24

Pursuing a **Minor Degree** in the **Koita Centre for Digital Health (KCDH)**

SCHOLASTIC ACHIEVEMENTS

- Obtained **99.45 percentile** in the Joint Entrance Examination Mains **(JEE Mains)** among **1.12 million candidates** ['20]
- Secured **98.65 percentile** in the Joint Entrance Examination Advanced **(JEE Advanced)** among **2,50,000 candidates** ['20]
- Recipient of the prestigious **KVPY fellowship** awarded by the Government of India to the **top 1%** of the candidates ['20]
- Achieved **AIR 3** in the **National Round** of Technothlon, a **Logical Aptitude Examination** conducted by **IIT Guwahati** ['17]

PROFESSIONAL EXPERIENCE

Invention Factory | 6-week Pitching, Prototyping & Patenting Program at IIT Gandhinagar *[May'22 - Jul'22]*

*Awarded a **Letter of Recommendation(LoR)** by Prof. Nithin George, Overall Coordinator of IF for **exceptional performance***

- **Provisional Patent** Application (PPA) for my invention will be filed in **India** and the **United States** in the coming few weeks
- **Amongst the 20** students chosen competitively from 23 IITs to participate in the Invention Factory conducted at IIT GN
- **Invented** a **Mechanical Device** that prevents accidental medicine overdose, thereby **saving the lives** of numerous people
- Worked in a team of 2 and **pitched** the invention to over **60+ industrialists** from various backgrounds, including **Healthcare Service Professionals**, **CTOs** of companies like **Tata Motors**, **L&T**, **IBM** and several **Patent Attorneys** over a six-week period

IntelliJ Plugin for generating Unit Tests | SDE Intern at Piramal Finance *[May'23 - Jul'23]*

*Received a **Pre-Placement Offer (PPO)** from Piramal Finance for **outstanding performance***

- **Created** a **plugin tool** called **"PiramalGPT"** capable of retaining context similar to **ChatGPT** inside the IntelliJ Code Editor
- **Increased** developer **productivity** by **10%** and enhanced code quality via the use of this standardized AI Unit Test Generator
- Introduced the ability to generate **standardized Swagger documentation** and **Javadoc Comments** for the entire code file

Terminal | Correlation One *[May'23]*

- Secured a **3rd Position** & won cash prize worth **USD 2500** in the India Terminal Competition sponsored by **Citadel Securities**
- **Developed** & tested an innovative algorithm **outperforming top-tier teams** in this **coding & strategic analysis** competition

TECHNICAL PROJECTS

Machine Learning Approach for Analysing Measles in India | RnD Project *[Jan'23 - May'23]*

*Received the **Undergraduate Research Award (URA-01)** by Prof. Ganesh Ramakrishnan for **exemplary performance***

- Used **XGBoost** and other ML techniques to analyse and **extract** the key features indicating the **presence of measles disease**
- **Concluded** that the cases were **sporadic**, without transmission involved & that majority of the patients were unvaccinated
- **Explored** various types of **SIR Compartment Models** for optimal prediction and modeling of Measles Outbreak in Mumbai

Bank Note Authentication using Random Forest Classifier and Neural Networks | Self Project

- Used the Bank Authentication Data Set from the UCI repository and performed an **Exploratory Data Analysis (EDA)** on it
- Checked for **Imbalanced Class Data** and resolved the issue using the **Synthetic Minority Oversampling Technique(SMOTE)**
- Performed **Data Preprocessing** by checking for **null values** and standardizing the data using **Scikit-Learn's Standard Scaler**
- **Used** Random Forest Classifier **(RFC)** and Neural Networks **(NN)** with **hyperparameter tuning** and obtained **a 0.99 F1-Score** with Random Forest Classifier and **0.97 F1-Score** with Neural Networks**,** concluding that **Random Forest Classifier is better**

Predicting Loan Repayment using Deep Learning | Self Project

- Used the Lending Club Data Set from Kaggle and performed **Exploratory Data Analysis (EDA)** to find **Feature correlations**
- Performed **Feature Selection**, **Data Cleaning** and **One-Hot Encoding** to convert categorical features to numerical variables
- Used **Keras** to create a **Deep Neural Network** and **tuned the hyperparameters** and added validation data for later plotting
- Evaluated Model's Performance and obtained an **89% accuracy** and a **0.87 F1-Score** and plotted validation vs training loss

Neural Networks and Deep Learning | Summer of Science | Maths & Physics Club *[May'22 - Jul'22]*

- **Worked** on **mini-projects** based on **Linear Regression, Logistic Regression**, etc to understand the practical aspects of ML
- **Explored** the **theoretical and coding aspects** of Neural Networks and Deep Learning under the guidance of a mentor

POSITIONS OF RESPONSIBILITY

Assistant Team Manager | IIT B Racing | Member of a 3-Tier cross-functional team of 80+ *[Aug'21 - Jun'22]*

*Our vision is to "**Revolutionize Electric Mobility in India**, focusing on **sustainable technologies** and innovations"*

- Assisted the team in generating a net sponsorship of over **INR 50,00,000** annually to aid in the design and development of India's fastest electric race car to compete in Formula Student, United Kingdom (FSUK) and Formula Bharat, India (FB)
- **Analyzed 50+ companies** like Suzlon, Mahindra Electric, ReNew Power, etc with great detail by using LinkedIn as a tool in search of potential sponsors and closely corresponded with them to **negotiate sponsorship deals** for the IIT B Racing Team
- Capitalized on team's victory as a winner at FSUK concept class '21 by **contacting 30+ media companies** in a span of **2 days**

Member of Editorial Board | Mechanical Engineering Association *[Jul'22 - May'23]*

*Working in a **team of 10** students to curate content for the **largest** department magazine in IIT Bombay; catering to **1000+ students***

- Compiled a **bi-annual newsletter** to elucidate achievements and research milestones of students in Mechanical Engineering
- Authored multiple sections in **Techniki**, the institute's oldest and most viewed department magazine with **1500+** viewership

COURSE PROJECTS

Mathematical Modelling of Wind Cup Anemometer | Prof. Dipanshu Bansal *[Apr'22]*

- Used the knowledge of **Order of Instruments** gained from the course Mechanical Measurements
- Using **Differential Equations** and Laws of Physics used in **General Aerodynamic Balance**, modeled the instrument as First Order Instrument and validated the results by comparing with real world value

Mould Defect Detection using Image Point Cloud | Prof. Ramesh Singh *[Apr'22-May'22]*

- Worked in a team of 5 and obtained **point cloud** of damaged mould using **Laser Scanner**
- Searched for Related Research Papers and coded a **program** in python to identify the **defects**

Stock Market Prediction | Prof. Biplab Banerjee *[May'22]*

- Worked in a team of 4 members and made use of various algorithms to predict the stock market
- Used the **SARIMA Algorithm**, **Neural Networks** and **SVM** Algorithm to predict the stock movement

Buckling of Columns | Prof. Krishna Jonnalagadda *[May'22]*

- Worked in a team of 5 and performed the **Buckling of Columns** in the Solid Mechanics Lab
- **Manufactured custom end grips** for holding the rods. Compared Observed result to the Theoretical Results
- Modelled the Buckling of Rods in **ANSYS Software** and validated the results

Simulation-Based Hospital Capacity Planning| Prof. Makarand Kulkarni *[Jan'23-May'23]*

- **Designed** a **conceptual model** in the **ARENA simulation software** to assess system performance, identify bottleneck, and **optimize resource allocation** based on resource availability, process variability, and service demand patterns of a Hospital
- **Performed** comprehensive **what-if analysis** to evaluate diverse scenarios, including facility expansions, staff scheduling adjustments & patient flow modifications facilitating **data-driven** hospital capacity planning instead of traditional approach
- Comparatively **evaluated** many scenarios, optimizing waiting time, queue length and doctor utilization for various scenarios

TECHNICAL SKILLS

Programming Languages	C++, Python, Java, R
Deep Learning Frameworks	Tensorflow, Keras, Pytorch
Software	AutoCAD, Solidworks, MATLAB , Microsoft Office

COURSES UNDERTAKEN

Mechanical Engineering	Solid Mechanics, Fluid Mechanics, Structural Materials, Engineering Mechanics, Thermodynamics Strength of Materials, Engineering Graphics and Drawing, Mechanical Measurement, Manufacturing Processes and Laboratory
Mathematics and Computing	Linear Algebra, Vector Calculus, Numerical Analysis, Computer Programming and Utilization, Introduction to Machine Learning, Deep Learning - Theory and Practice, Computational Genomics, Udemy's Python for Data Science
Other Science Courses	Quantum Physics, Chemistry, Intro to Electronic Circuits

HOBBIES

- Passionate about **reading** both **nonfiction** and **fiction**, delving into complex themes and narratives & understanding them
- Enthusiastic about **playing** badminton, table tennis and cricket & striving for **skill improvement** and **friendly competition**
- Devoted to **traveling** and **exploring** new places, absorbing diverse cultures and **embracing unique experiences** from these
- Engaged in **personal finance** management and investment strategies, striving for **informed decisions** & financial wellbeing

EXTRACURRICULAR ACTIVITIES

- Completed the **Intermediate Drawing Exam** conducted by Govt of Maharashtra and presented my drawing in an exhibition
- Won a **Gold** medal in **Badminton** in society's competition and took part in **Virtual Stock Market Competition** by E-Cell, IITB
- Selected in a **Five-membered team** representing Cambridge School in "**Derek's Faster Smarter Better" Quiz Competition**
- Participated in the **Rapid Chess Tournament** conducted by the Lokmat Times, Campus Club, Aurangabad, Maharashtra