



Kandarp Solanki
Engineering Physics
Indian Institute of Technology Bombay

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B.Tech.
Gender: Male
DOB: 13/11/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	9.25
Intermediate	CBSE	Bright Day School	2021	96.40%
Matriculation	CBSE	Bright Day School	2019	98.00%

Pursuing a **minor** in **Machine Intelligence & Data Science** at **CMinDS, IIT Bombay**
Cleared **CFA[®] Level I** in **August 2024**

SCHOLASTIC ACHIEVEMENTS

- Selected for a **fully-funded semester exchange** to **EPFL, Switzerland** (1 out of 3 students from IITB) [*'24*]
- Conferred with **Undergraduate Research Award (URA-01)** by IITB for exceptional undergraduate research [*'24*]
- Awarded the **NUS Young Fellow Scholarship, Singapore** for GenAI conference (only 6 students from IITB) [*'24*]
- Nominated for **AUA-THU Global School** by **Tsinghua University, China** (1 out of 2 students from IITB) [*'23*]
- Secured an **AP** grade in the course DS303 (Introduction to Machine Learning), awarded to 1 out of 173 students [*'23*]
- Secured **98.1** percentile in Joint Entrance Examination (**JEE**) **Advanced** and **99.78** percentile in **JEE Mains** [*'21*]
- Secured **State Rank 75** in Gujarat Common Entrance Test (**GUJCET**) out of a total of 1 lakh+ candidates [*'21*]
- Awarded **Certificate of Merit** in 2 subjects awarded to **top 0.1%** meritorious students in **Class X** by **CBSE** [*'19*]

WORK EXPERIENCE

Investment Research Analyst | *Axis Asset Management Corporation (AMC)* [*May '24 - Jul '24*]

Awarded a **PPO** to work with the **quantitative strategy division** managing **quant funds** with **AUM INR 1000+ Cr**

- Comprehended **NIFTY** and **MSCI** index methodology documents and modelled them into an executionable code
- Engineered a Python model to **predict NIFTY 100 index reconstitution** to assist an **active quant fund** saving **10+** recurring operation hours in stock selection monthly & **improved tracking** of passive money to **>90%** accuracy
- Backtested algorithms with **>93%** accuracy to forecast **5** securities that will enter/exit the index at any given time
- Conducted a **historical** analysis of **NIFTY 500** companies, examining **quarterly** variations on multiple bases for large, mid and small cap segments for last **10** years, tracking **sectoral transitions** and **company segment shifts**

Financial Research Analyst | *National Stock Exchange (NSE) of India* [*Nov '23 - Jan '24*]

Received a **letter of recommendation** from the **Chief Economist** of NSE for active contribution to the **EPR** team

- Conducted an in-depth analysis of key changes over years **validating** the **hypothesis of financial illiteracy** among new traders in FO segment & compiled a report '**Pre and Post-COVID trading behaviour of retail investors**'
- Analysed over **240** million tick-by-tick order data points leveraging **R** to model PnL statements of **5+** million traders
- Played a key role in the development of ongoing projects highlighted in NSE's monthly '**Market Pulse**' **publication**

Research Intern | *Centre for Nanoscience & Engineering (CeNSE), IISc Bangalore* [*May '23 - Jul '23*]

Guide: **Prof. Sreetosh Goswami** | Worked with a team of 5 scholars working on world-class nanofabrication technologies

- Achieved **>90%** accuracy by utilising **ML models** to **automate** MHz frequency prediction from SI5351 module
- Examined **fast-data transfer** at **400kbps** by configuring SI5351 using Serial Data (SDA) & Serial Clock (SCL) lines
- Studied the memristor-based implementation of **autoencoders** customised for **intrusion and anomaly detection**

KEY PROJECTS

**Supervised Learning Projects (SLPs) involve semester-long R&D under an IIT-B professor, equivalent to a full 6-credit course*

Forecasting Returns and Volatility with ARIMA-GARCH for CNXBAN [*Autumn '25*]

Guide: **Prof. Piyush Pandey, SJMSOM, IIT Bombay** (as a part of B.Tech Project)

- Implemented **ARIMA** time series modeling to forecast CNXBAN index movements and establish predictive patterns
- Executed comprehensive **intraday volatility analysis** by examining return correlations at 5-minute and 10-minute intervals, quantifying temporal dependencies and revealing systematic high intraday correlation patterns
- Developed a comprehensive **hybrid ARIMA-GARCH(1,1) model** to capture both the conditional variance and intraday periodicity dynamics, achieving an improved forecast accuracy through volatility clustering identification

Adoption of EV Usage in Rural areas : Barriers and Challenges [*Spring '24*]

Supervised Study, secured an **IRB approval** for further research | Guide: **Prof. Anand Rao, CTARA, IIT Bombay**

- Organized field visits to **3** villages to collect public survey data, discussing on-ground issues with multiple stakeholders
- Conducted **10+** EV expert surveys, focusing on **9** major barriers and sub-barriers to **adoption of EVs** in rural areas
- Leveraged the **Fuzzy DEMATEL** model to measure **15+** parameters from the survey data for ranking the barriers
- Mathematically derived a **cause-effect graph** among barriers to **bridge gap** between **expert and public opinions**

Semantic Table, Column & Cell recognition using TableNet [*Autumn '24*]

Supervised Learning Project | Guide: **Prof. Biplab Banerjee, CSRE Department, IIT Bombay**

- Managed a **Swiss blockchain** client to develop a ML-based image segmentation model, automating table extraction
- Developed a robust model by modifying the **TableNet** and **DenseNet** pipelines, requiring **10x lesser** input data
- Trained the data on **MARMOT** dataset and predicted cell, column and table segmentation with **>90%** accuracy

Image Deblurring using Reverse Heat (RH) Equation and Reverse Mean Shift [Autumn '24]

Course Project for CS663 (Digital Image Processing) | Guide: Prof. Ajit Rajwade, CSE Department, IIT Bombay

- Achieved superior image deblurring using a combination of **mathematical rigor** & cutting-edge **filtering** techniques
- Delivered **PSNR** (signal-to-noise) $\sim 2\times$ of existing algorithms, integrating **RH equation** with **Perona-Mallik** model
- Empirically evaluated unexplored deblurring techniques like shock filter & non-local reverse heat equation techniques

Cryptocurrency: Analysis, Visualization and Prediction [Autumn '22]

Course Project for DS203 (Programming for Data Science) | Guide: Prof. Amit Sethi, Dept. of Electrical Engg., IITB

- Cleaned and analysed a cryptocurrency dataset with **10+** cryptos spanning over **7** years using **Pandas** library
- Examined **correlation** between various cryptocurrencies and studied the influence of financial markets on them
- Built machine learning models based on **Recurrent Neural Networks (RNN)** using **Keras LSTM** model, trained them with the dataset and accurately predicted prices of 3 major cryptocurrencies, **Bitcoin, Ethereum & Litecoin**

CONFERENCES & WORKSHOPS

LSEG Global Investment Compass, Mumbai [May '24]

- Networked with **CIOs** of leading global asset management firms & investment banks discussing current **valuation levels** across different sectors, **investor sentiment**, and **outlook for investment opportunities** in Indian markets

4th Annual International Capital Markets Conference, NISM Patalganga [Dec '23]

- Interacted with prominent leaders on cutting-edge developments in the finance industry, enhancing my understanding of **market dynamics** & **regulatory frameworks** for **ESG** and sustainable development practices around the world

POSITIONS OF RESPONSIBILITY

Institute Sports Convener | Institute Sports Council, IIT Bombay [May '22 - May '23]

Appointed as one of **35** conveners out of **250+** applicants and part of a **3-tier** team consisting of **50+** members

- Developed an exclusive **Sports App** for the IITB Sports Community consisting of **5K+** people using **MEAN** stack
- Collaborated with **30+** team members to execute Freshiesta, engaging an audience of **200+** first-year undergraduates
- Ideated and executed the General Championship opening ceremony which saw an attendance of over **500+** students

Joint Secretary | Students' Association of Physics Department [May '23 - May '24]

Elected representative of **250+** UG students, managing a budget of **INR 1 lac+** for department events and activities

- Organised inter-department **e-Sports** week in coordination with **9** departments witnessing **500+** participants
- Planned an annual calendar involving execution of **10+** events in **sports, cultural**s, etc catering to **500+** people

Teaching Assistant | Indian Institute of Technology Bombay

for the following courses: **PH111, PH112, MA108, PH221, DS303, DS203** [Mar '23 - Jun '23]

- Conducted interactively engaging weekly problem-solving tutorial sessions for **170+** junior undergraduate students
- Hosted a **Tutorial Service Centre (TSC)** session on Classical Mechanics (PH111) witnessing **100+** undergraduates
- Curated a comprehensive list of exam-preparation resources & slides for quick revision used by **60+** people monthly

TECHNICAL SKILLS

Languages : C++, Python, R, HTML, CSS, JS, SQL, Bootstrap, ROOT

Data Science : NumPy, Pandas, Matplotlib, Seaborn, MATLAB, GNU Octave

Softwares : LTSpice, MSOffice, Bloomberg

RELEVANT COURSES UNDERTAKEN

Physics	Statistical Physics, Quantum Mechanics I & II, Thermal Physics
Mathematics	Linear Algebra, Complex Analysis, Ordinary and Partial Differential Equations, Numerical Analysis, Calculus I & II
Other	Reinforcement Learning, Advanced Image Processing, Intro to Machine Learning, Economics
Online Courses	Machine Learning by Andrew Ng (Coursera), Finance for Non-Finance Professionals

EXTRACURRICULARS

- Secured a funding of **500K+ INR** for a startup pitched in the level 2 of **IDEAS** cohort by DSSE, IITB [Mar '24]
- Awarded the **'Most Valuable Player'** and **'Best Bowler'** in Inter-Hostel Cricket Championship 2023-24 [Jan '24]
- Achieved **10,000+ INR** sales with **self-published** book on CSS proficiency enhancement on **Gumroad** [Jun '22]
- Part of the **Inter IIT** Cricket contingent with only **15** selections from the institute for **2** consecutive years [Dec '23]
- Participated and **won** the Aavhan's Revive Sports League (**RSL**) in Cricket out of **6** teams institute-wide [Apr '22]
- Completed a yearlong training program in National Sports Organisation (**NSO**) in **Cricket** at IIT Bombay [Dec '22]
- Selected for a tour to **Indore, Madhya Pradesh** to represent **cricket team of 15** for the **Baroda** district [May '19]
- Awarded **3rd** rank in district for oratory competition in **Sanskrit** by Devsayujyam Sanskrit Pratishthan [Aug '17]