Kandarp Solanki

Second Year Undergraduate

Engineering Physics

Indian Institute of Technology Bombay

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Interests

Artificial Intelligence, **Machine Learning** and **Data Analytics.**

Education

2021-Present	**B.Tech in Engineering Physics,** *Indian Institute of Technology Bombay*	*[CPI - 8.82/10]*
	Minor in Machine Intelligence and Data Science, *Centre for Machine Intelligence and Data Science*, IIT Bombay	*[CPI - 10/10]*
2021	**Higher Secondary Education,** *Bright Day School, Vadodara*	*[96.4%]*
2019	**Senior Secondary Education,** *Bright Day School, Vadodara*	*[98%]*

Projects and Internship

Autumn 2022   **Cryptocurrency: Analysis, Visualization and Prediction (Report)**

Guide: Prof. Amit Sethi, Department of Electrical Engineering, IIT Bombay

- Cleaned, analysed a cryptocurrency dataset with **10+** cryptos spanning over **7** years using **Pandas** library
- Examined **correlation** between various cryptocurrencies & studied 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**

Autumn 2022   **Dependence of parameters on charge asymmetry in p-p collisions at 13 TeV (Repository)**

Guide: Prof. Sadhana Dash, Department of Physics, IIT Bombay

- **Statistically analyzed datasets** generated by the **Pythia 8 Monte Carlo** simulator using the **ROOT** software containing fluctuations of **2 million+** charged particle multiplicities in **proton-proton collisions**
- Checked the dependence of parameters like charge particle multiplicity distribution and kinematic variables
- Studied the distribution of **charge asymmetry in different multiplicity classes** to observe trends in standard deviation and analysed the multiplicity distribution in charge symmetric and asymmetric regions

Winter 2022   **Market Research Intern & Web Developer**

AgroEdge Pvt. Ltd.

- Developed a website from the ground up for a catering service that would serve **10K+** customers/year
- Formulated **research documents** catering to all factors needed for commercial production of edible mushrooms
- Extensively studied the process of cultivating gourmet mushrooms and viability of their cultivation in India

Positions of Responsibility

May 2022 - Present   **Institute Sports Convener**

Institute Sports Council, IIT Bombay

- Appointed as convener out of **250+** applicants through an extensive process involving assignments and interviews
- Ideated & executed the General Championship opening ceremony which saw an attendance of **500+** people
- Currently working on the **Sports App** using **Angular** for front-end and **NodeJS** for back-end which will cater to all the updates related to Inter-IIT, Aavhan, General Championships, and all other sports activities within institute

May 2022 -	**Aavhan Coordinator**
Present	*Institute Sports Council, IIT Bombay*

- ○ **Coordinated** and **ideated** multiple events organised under **Aavhan 2022** - IITB's Sport Festival
- ○ Collaborated with **Decathlon** to promote sports activities and fitness culture within the institute
- ○ Ideated and executed the **Aavhan-Half Marathon** catering to **5K+ people** from inside & outside the campus

Training and Workshops

Winter 2022	**National Initiative on Undergraduate Sciences (NIUS)**
	HBCSE-TIFR, Mankhurd, Mumbai

- ○ Attended week-long series of lectures by eminent Indian professors on frontline physics research topics, like **low energy n-n scattering, quantum entanglement, morphological anaylsis of thin films, etc.**
- ○ Worked on multiple meticulous experimental lab problems at **HBCSE, Mankhurd** based on optics, electromagnetism, and electronics, **rigorously analysed** the results and **received a felicitation certificate**

Academic Achievements

2021	Secured **99.78 %ile** in Joint Entrance Examination **(JEE) Mains** out of $\sim$**1 million candidates**
2021	Amongst **top 3%** out of **0.14 million** candidates in Joint Entrance Examination **(JEE) Advanced**
2021	Selected to participate in **National Initiative in Undergraduate Science** (NIUS) program conducted by **Tata Institute of Fundamental Research** (TIFR), Mumbai (only **65 selections nationwide**)
2021	Secured **State Rank 75** of **1** lakh+ candidates in **Gujarat Common Entrance Test (GUJCET)**
2019	Awarded **Certificate of Merit** in **2 subjects** given to **top 0.1%** meritorious students in **Class X** by **CBSE**
2017	Awarded **3rd** prize in district oratory competition in Sanskrit by Devsayujyam Sanskrit Pratishthan
2015	Received **Certificate of Distinction** in **ANCQ** (Australian National Chemistry Quiz) out of **120K+** students

Technical Skills

Languages	C++, Python, HTML, CSS, JS, SQL, Bootstrap, ROOT
Data Science	NumPy, Pandas, Matplotlib, Seaborn, MATLAB, GNU Octave
Softwares	LTSpice, MSOffice, Canva

Key Courses Taken

Physics	Special Theory of Relativity, Classical Mechanics, Thermal Physics, Quantum Mechanics I
Mathematics	Linear Algebra, Complex Analysis, Ordinary and Partial Differential Equations, Numerical Analysis
Minor	Data Analysis & Interpretation, Programming for Data Science, Introduction to Machine Learning
Online	Machine Learning by Andrew Ng (Coursera)

Extracurriculars

- ○ Self published book on **Gumroad** with sales >**10K INR** on how to learn CSS smartly **'21**
- ○ Attended a 2-day workshop & implemented some hands on projects on tinkercad.com **'22**
- ○ Competed in **Google Kickstart** & coded efficient algorithms to complex problems **'21**
- ○ Completed a yearlong training program in National Sports Organization **(NSO)** Cricket **'22**
- ○ Participated and **won** the Aavhan's Revive Sports League **(RSL)** in Cricket out of **6** teams **'22**
- ○ Attended training sessions & learnt the basics of playing a guitar organized by Symphony, IITB's Music Club **'22**
- ○ Part of the team of 45 selected by trials for **Inter-IIT Camp** for **Cricket** **'22**