

Sumedh Gosavi

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PROJECTS

• Building Cross Timeframe Trading Architectures [GitHub]

March 2025 - Apr 2025

Tech GC

- Developed a portfolio of three quantitative trading strategies for Nifty 50 and Bank Nifty across 15-minute, hourly, and daily timeframes as part of the Kailasa Capital challenge.
- Strategies combined technical indicators (MACD, HMA, Supertrend, ADX, SMA/EMA) with volatility filters and dynamic position sizing using a capital base of Rs. 1 Cr.
- Achieved a portfolio value of Rs. 2.84 Cr, delivering a 184.78% return on initial capital, demonstrating robust performance and risk management across varied market regimes.

• Deep Learning-based Image Analysis of SDSS Galaxy Data

Jan 2024 - Mar 2024

PaAC

- Executed image analysis of SDSS Galaxy Data and CIFAR-10 dataset, employing a 'Variational Auto Encoder' to generate and denoise images, achieving a 71% classification accuracy.
- Improving image quality, accurately detecting and extracting significant features, correlating data with astronomical databases and optimizing models.

• Approximate Multipliers

Aug 2024 - Dec 2024

PaAC

- Developed an approximate multiplier in Verilog after mastering digital electronics fundamentals, optimizing for performance and resource efficiency
- Evaluated the multiplier's accuracy and benchmarked results against predictions from a machine learning model.
- Enhanced hardware design skills and integrated computational techniques for performance analysis

• Grover's Algorithm via Discrete Quantum Random Walk

Oct 2023 - Jan 2024

PaAC

- Covered classical random walks, quantum random walks, and the basics of quantum computing.
- Implemented the Grover's search algorithm for the Boolean SAT problem , and understood the amplitude amplification part in the algorithm properly

EDUCATION

• Indian Institute of Technology, Roorkee

2022 - 2026

B.Tech Engineering Physics

Roorkee, India

• Adarsh Sanskar Vidyalaya

Intermediate (Class XII)

2022

Nagpur, India

- Grade: 93.33%

• T.B.R.A.N.'s Mundle English Medium School

2020

Matriculate (Class X)

Nagpur, India

- Grade: 95.40%

POSITION OF RESPONSIBILITIES AND EXTRA-CURRICULAR

• Joint Secretary | Physics and Astronomy Club

Sept 2024 - Present

- Organized our 9-day flagship event Cosmic Voyage , with 150+ participants and 10+ activities and conducted Journal Club sessions on various research papers in the domain of physics.
- Managing a team of 50+ members to organize quizzes, lectures, open discussions and other events throughout the year.
- Represented the club in competitions in intra-college astrophotography competitions and secured 1st runner up in Bits Pilani's competition.

- **Joint Secretary | IRMUN**

Apr 2023 - Present

- Enhanced MUN culture at IIT Roorkee by successfully organizing Model United Nations events at major fests like Thomso, Cognizance, and E-Summit, increasing participant engagement
- Handled the selection process of MUN committee, distribution of portfolios and the logistics of Intra-college and Inter-college MUN's.

- **Executive Member | Thomso'23**

Apr 2023 - Nov 2023

- Successfully secured sponsorship from 3 companies by engaging in negotiations, enhancing fundraising efforts for the event and gaining significant exposure to professional networking.
- Handled the management of deliverables for Hero, RedChief and Top One Percent in the fest. Coordinated with Spectal artist management company for smooth conduction of events.

- **Competitive Programming, Online Judges**

Feb 2024 - present

- Codeforces: max. rating=1345 (handle: sumedhgosavi05)

SKILLS

- **Programming Languages:** Python(Fluent), C++(Basic), HTML, MATLAB
- **Software Packages:** Pytorch, Numpy, Matplotlib, Pandas
- **Languages Known:** English(SRW), Hindi(SRW), Marathi(SRW)
- **Additional Courses:** Pytorch for DL and ML(FreeCodeCamp.org), Machine Learning and Artificial Intelligence by IBM

ACHIEVEMENTS

- Secured AIR Rank 4256 in JEE Advanced
- Cleared KVPY SX with AIR Rank 4095
- Secured AIR Rank 6277 in JEE Mains

REFERENCE

1. **Jitin Singla**
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