

# Aditya Bhardwaj

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## EDUCATION

**Cornell University**, College of Engineering, Ithaca, NY

Master of Engineering in Financial Engineering, GPA: N/A

**Expected Dec. 2025**

- *Selected Coursework (ongoing)*: Stochastic Calculus, Game Theory, Derivative Securities, Fixed Income Securities & Interest Rate Derivatives, Operations Research Tools for Financial Engineering

**BITS Pilani**, Pilani, Rajasthan, India

B.E. Civil Engineering with a Minor in Finance, **First Division, CGPA: 7.73**

**Aug. 2018 to July 2022**

- *Selected Coursework*: Applied Stochastic Process, Probability & Statistics, Differential Equations, Linear Algebra, Complex Analysis, Multivariable Calculus, NonLinear Dynamics & Chaos
- Awarded PS-1 scholarship for outstanding performance during summer internship in my second year

## SKILLS

Technical: Python (NumPy, Pandas, scikit-learn, Keras, PyTorch, NLTK), MATLAB, R, C/C++, SQL, Git, PowerBI, VBA

Personal: Strong Research Experience, Keen Interest in Financial Markets, Communication, Problem Solving, Detail Oriented

## EXPERIENCE

**Authorized Officer**, UBS, Hyderabad, India

**July 2022 to July 2024**

- Collaborated with front office quantitative analysts to onboard ICE market data onto UBS risk and analytics platform
- Applied **data science** techniques to predict PnL breaks in order to increase operational efficiency of controllers
- Used **PySpark**, **SQL** and **PowerBI** to manipulate big data and build dashboard for data analysis and data visualization
- Selected for UBS exclusive Global Talent Program – LEAP (less than **5%** selection rate) due to excellent track record

**Summer Intern**, UBS, Hyderabad, India

**July 2021 to Dec. 2021**

- Developed **Machine Learning** and **NLP** models to generate automated commentaries, saving **50 hours** per month
- Project won the finals at an internal competition as the most innovative idea and was showcased to **Group CFO**
- Used **statistical** and **time series analysis** to detect anomalous new trades that can be further investigated by controllers

## PROJECTS

**Trading**, Online

**May 2023 to Nov. 2023**

- Traded weekly expiry equity index options by analyzing potential trading opportunities on Indian financial markets
- Learned and applied various **option trading strategies**, and maintained **trading logs** to learn from success and errors
- Developed an in-depth understanding of **option greeks**, **risk-management** and ability to stay calm while taking risks

**Kalman Filter for Attitude Determination of Satellite**, BITS Pilani, Pilani, Rajasthan, India

**Apr. 2019 to Dec. 2020**

- Researched, developed and statistically verified **Kalman Filter** (MEKF) in **MATLAB** for Team Anant's CubeSat
- Used numerical methods such as **RK-4** integration, **Monte Carlo** simulations, etc., to verify performance of the filter
- Published a **peer-reviewed paper** in a reputed Springer journal, highlighting the novelty and approach of our research

## PUBLICATIONS

- Sharma, G., Goyal, T., **Bhardwaj, A.** et al., For the 71st IAC: Implementation and Validation of Murrell's Version Kalman Filter for Attitude Estimation, Advances in Astronautics Science & Technology, Springer.  
<https://doi.org/10.1007/s42423-021-00078-1>.

## LEADERSHIP EXPERIENCE

**ADCS Team Lead**, BITS Pilani, Pilani, Rajasthan, India

**Sept. 2020 to May 2021**

- ADCS Team Lead of Team Anant - Official student satellite team of BITS Pilani
- Successfully led a seven member team to research and implement attitude determination module of the CubeSat

## ACTIVITIES/INTERESTS & CERTIFICATES

*Certificates*: Microsoft Azure Fundamentals, Microsoft PowerBI Data Analyst

*Volunteer Work*: Participated in plantation drives and teaching events for underprivileged school kids in Hyderabad