

Amartya Dash

Senior Undergraduate

Department of Chemical Engineering

Minor in Industrial Management and Engineering

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Academic Qualifications

Years	Degree/Certificate	Institute	CPI/%
07/18 - 07/22	Bachelor of Technology	Indian Institute of Technology, Kanpur	8.9/10
06/16 - 06/18	Class XII (MSBSHSE)	Pace Jr. Science College, Nerul	96.1%
05/15 - 05/16	Class X (CBSE)	DAV Public School, New Panvel	10/10

Honors & Achievements

- Secured the **Gold Medal** in Inter IIT Tech Meet 8.0 - DRDO SASE's UAV Fleet Challenge
- Secured **18th** position overall in Flipkart GRiD 2.0 Robotics Challenge, Level-1, **amongst 6000+ participants**
- Secured **All India Rank 2844** in **JEE Advanced** 2018 among 150,000 shortlisted candidates

Professional Experience

HSBC | Junior Analyst May '21 - Jul '21
Mentor: Naveen Kumar | AVP

Objective	– Design a Production Credit (PC) calculation framework to represent value of client flow in FX options trades
Strategy	– Implemented a tier-based approach to classify each trade based on client type & currency pair liquidity – Defined aggregate P&L gradient as the metric to characterize any collection of trades – Used K-Means clustering and internal volume reports for assigning Counterparty and Liquidity tiers – Developed a novel half-life exponential decay model that captures PC for any aggregate P&L profile
Result	– Successfully demonstrated the model's results for different tier combinations for all the trade data – Worked with a team of e-trading quants to integrate the analysis into the analytics chatbot, Sympricot

Key Projects

Paper Review: Sourcing from Suppliers with Financial Constraints & Performance Risk Jan '21 - May '21

Course Project | Prof. Vipin B | Operations Management

- Compared **POF**(Purchase Order Financing) & **BDF**(Buyer Direct Financing) to finance a supplier under constraints & risk
- Used equations and constraints for both schemes to plot the optimal regions for Symmetric & Asymmetric cases
- Incorporated **supplier's asset level & signalling game** between manufacturer and the bank in the analysis

Comparing DNN Features With Psychological Representations

May '20 - Jul '20

SnT Summer Project — Brain and Cognitive Society, IITK

🐙 GitHub

- Won the **Best Research Award** amongst 35+ projects and over **400 participants** in SnT Summer Camp '20
- Successfully reproduced the results in the paper 'Adapting Deep Network Features to Capture Psychological Representations'
- Extracted Deep Network Features from 120 images using both **Keras & PyTorch** models of VGG-16, GoogLeNet & AlexNet
- Applied a **Ridge Regression** on the feature-by-object matrix to obtain a similarity matrix with **high R^2 Performance**
- Produced MDS and Hierarchical Clustering plots to visualise the correlation between the various similarity matrices

D.R.D.O.'s SASE UAV Fleet Challenge

20th Dec'19 - 22nd Dec'19

Inter IIT Tech Meet 8.0, IIT Roorkee

🐙 GitHub

- Secured the **1st Position** and the **Gold Medal**, with a perfect score of **400/400**
- Implemented a **Swarm Architecture** using the FKIE Multimaster framework for intra-fleet tracking of detected boxes
- Worked with Mapping APIs (Bing Maps REST API, OpenLayers, Folium) to mark detected boxes on a map

International Micro Aerial Vehicle Competition (IMAV), 2019

30th Sept'19 - 4th Oct'19

Madrid, Spain — Advisor: Prof. Abhishek

🐙 GitHub

- Amongst the **Top 15** teams selected **globally** for the Outdoor Challenge
- Developed a fleet of MAVs capable of detecting mailboxes and delivering packages into them across an area of **30,000 m^2**
- Implemented a robust **Helipad Detection** and landing framework for the mission

Position Of Responsibility

Team Head

Apr '20 - Apr'21

Aerial Robotics IITK — Advisor: Prof. Mangal Kothari

Team Website | 🐙 GitHub

- Led a team of **15 students** to participate in various national and international competitions
- Developed and maintained the **Software** and **Firmware** side of the stack
- Mentored introductory Summer Projects for the new members of the team
- Established proper guidelines for code, documentation, benchmarking and licensing

Technical Skills

- **Programming:** Python, C++, MATLAB | **Data Science:** PyTorch, Keras, scikit-learn, OpenCV
- **Robotics:** ROS, PX4 Firmware | **Utilities:** Git, L^AT_EX

Relevant Coursework

(* - Ongoing Course, ** - Achieved highest possible grade point out of 10)

Applied Probability and Statistics**	Operations Management**	Data Structures & Algorithms**
Computational Methods in Engineering	Project Management	Financial Engineering*