

# Swapneel Mehta

Phone: +16468819397 • E-mail: [swapneel.mehta@nyu.edu](mailto:swapneel.mehta@nyu.edu)

## EDUCATION

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**Ph. D. Student at the Centre for Data Science, New York University**, GPA 3.8

**Exp. '24**

- Mentors: Kyle Cranmer, Rajesh Ranganath. Probabilistic Inference and Causal Discovery  
**CDS Fellowship (2019-24), IRIS-HEP Fellow (2020-21)**

**Bachelor in Computer Engineering, University of Mumbai**, GPA 9.23

**2014 - 2018**

- Applied Math, Graph Theory, Machine Learning, Artificial Intelligence, Algorithms

## PROFESSIONAL EXPERIENCE

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**(Part-time) Research Intern, Adobe Inc.**, San Jose

**Aug '20 - Present**

- Continuing offer from Summer Internship.

**Data Science Research Intern, Adobe Inc.**, San Jose

**May '20 - Aug '20**

- Graph-based deep learning for high-dimensional data (details withheld pending publication).

**Technical Student, European Org. for Nuclear Research (CERN)**, Geneva

**Mar '18 - Jun '19**

- Built graph neural networks for particle track reconstruction using collision data from the Large Hadron Collider.
- Optimized and extended the 'DeepJet' deep learning framework for jet physics, built using Tensorflow, Python, and custom C++ extensions for multithreaded operations on systems using the CMS Software Environment.

**Openlab Intern, European Org. for Nuclear Research (CERN)**, Geneva

**June '17 - Aug '17**

- Developed an ensemble of unsupervised learning models for anomaly detection in database connections.
- Published a first-author short paper, receiving a special mention in the machine learning track at 2nd Springer International Conference on Integrated Intelligent Computing, Communication, and Security, 2018.

**\*(Remote) Research Intern, Dr. S. Sahasrabudhe**, IIT-B, Mumbai

**Aug '16 - May '17**

- Automated the evaluation for 3D Modeling assignments in Blender; Course Instructor for the MOOC 'Skill Development in Animation' catering to over 5,000 participants on the IITBombayX platform.
- Published a first-author short paper at IEEE International Conference on Advanced Learning Technologies, 2018.

**SWE Intern, Smokescreen Technologies**, Mumbai

**Nov '16 - Mar '17**

- Combined low-latency network scans, hostname clustering, intelligent decoys, and automated deployment using custom-built modules integrated into the NASSCOM-DSCI award-winning IllusionBlack software, 3rd Gen., 2017.
- Built a proof-of-concept honeypot with ICS/SCADA services responding on open ports in a FreeBSD 'jail' using open-source project 'Conpot'; mentored 2 interns from IIT-Bombay.

**SWE Intern, Falconry Software Solutions**, Mumbai

**July '16 - Sept '16**

- Developed client API functions to enable real-time data streaming and subscription-based alerts in the three client connectors released as open-source codebases in [Java](#), [Python](#) and [Javascript](#).
- Added tests for the primary product to support concurrency using multithreading and asynchronous calls.

**Summer Intern, Microsoft Research**, IIT Bombay, Mumbai

**May '16 - July '16**

- Created a Google Analytics Dashboard to track and monitor user interactions on the "Lokacart" Android e-commerce application using the Enhanced E-commerce SDK.
- Presented the project to Microsoft Research and a committee of IIT-B faculty (video available: [bit.ly/iitblokacart](https://bit.ly/iitblokacart)).

# Swapneel Mehta

## PUBLICATIONS/TALKS

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Slides and Publications available at [swapneelm.github.io/presentations](https://swapneelm.github.io/presentations) and [Google Scholar](#)

- **Mehta, Swapneel**, et al. "DeepJet: A Machine Learning Environment for High-energy Physics." (2018). *Invited* Poster Presentation at Nvidia GPU Tech Conference 2019, USA; *Google Cloud Poster Award* at the Deep Learning Indaba 2018, South Africa; Poster Presentation at the Machine Learning Summer School 2018, Spain; *Invited* Tutorial at the CMS Machine Learning Workshop, July 2018. Oral Presentation at the 2nd CERN IML Machine Learning Workshop, 2018; *Invited* Talk, CVIT Lab, International Institute of Information Technology (IIIT), Hyderabad, India.
- *Best Paper*, **Mehta, Swapneel**, Prasanth Kothuri, and Daniel Lanza Garcia. "A Big Data Architecture for Log Data Storage and Analysis." *Integrated Intelligent Computing, Communication and Security*. Springer, Singapore, 2019.
- **Mehta, Swapneel**, Prasanth Kothuri, and Daniel Lanza Garcia. "Anomaly Detection for Network Connection Logs." *arXiv preprint arXiv:1812.01941* (2018).
- **Reviewer**, Journal of Parallel and Distributed Computing (JPDC), October 2018.

## COMMUNITY INVOLVEMENT

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- **Contributor, Depth First Fellowship, Jane Street**: Participated in a 6-8 week discussion group with international researchers to create materials to explain Stein's Method in an accessible manner.
- **Mentor, The Grand Challenge, CERN/RCA**: Guided 4-5 teams of students from the Royal College of Art in London on leveraging AI/ML for designing sustainable solutions in science for [The Grand Challenge](#).
- **Contributing Author, Open Source For You Magazine**: Featured articles on Artificial Intelligence and Machine Learning, the blockchain, Linux, Docker, Puppet, Windows, and tutorials on Jekyll, NodeJS, Git, among others reaching over 250,000 readers till date ([goo.gl/57NN6Y](https://goo.gl/57NN6Y)).
- **Founding Member, DJ Unicode**: Launched a student chapter undertaking open-source web and app (Android) development projects jointly mentoring a team of ~70 sophomores and juniors with selections for Google Summer of Code, international internships, and hackathon winners across the country ([djunicode.in](https://djunicode.in)).
- **Course Instructor, Fundamentals of 3D Viz., IITBombayX**: Catered to an audience of over 5,000 learners. The course was selected as one of the Global edX Prize Finalists, 2019 (top 10 edX courses).
- **Machine Learning Lead, Stanford Scholar Initiative**: Led an international collaboration of students and researchers in building scientific talks to make state-of-the-art research more accessible ([scholar.stanford.edu](https://scholar.stanford.edu)).
- **Education Support Fellow, Make a Difference**: Taught English and Math to 4 underprivileged students; achieved ~20% improvement. Organised national events as part of a team supported by Ms. Michelle Obama.

## AWARDS/FELLOWSHIPS

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- Delegate at the Schonfeld Quant Conference, NYC 2019 (**15% acceptance**).
- **2<sup>nd</sup> Prize**, CodaLab Contest, Machine Learning in High-energy Physics Summer School, Oxford, 2018
- Economic Times Campus Stars Class of 2018 - Selected as one of **India's Top 33 Engineers**
- Stanford Graduate School of Business, Reliance Scholarship Finalist 2017 (**youngest finalist**; \$150,000)
- **Indian Academies of Science Fellowship**, 2017
- HackDAIICT - 1st Runners-up; offer for incubation by Indian Space Research Organisation, 2017
- Computer Society of India TechNext Hackathon, IIT Bombay, Winners, 2017
- Barclays Rise Hackathon, Envestnet Yodlee Award, 2016
- Chief Minister's Scholarship, **Top 1% candidates** in Higher Secondary Certificate (12th Grade), 2014