

Swapneel Mehta

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EDUCATION

Ph. D. in Data Science, Center for Data Science, New York University, GPA 3.76 **2019 - Present**

- Probabilistic Programming and Inference, Causality, and Social Network Analysis

Bachelor in Computer Engineering, University of Mumbai, GPA 9.23 **2014 - 2018**

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

EXPERIENCE

Founder, SimPPL, Simulation Intelligence to model Collective Behavior **Jan '22 - Present**

- Developing [simppl.org](#) for policymakers and journalists to actively track online propaganda and disinformation.
- Working with The Sunday Times, Ippen Digital, the Vermont Digger and Oxford's AI4ABM Group.
- Awarded grants and support from the [NYC Media Lab](#), the NYU Tech Venture Workshop, and [JournalismAI](#).

Ph.D. Machine Learning Engineer Intern, Twitter Inc. **June - Aug'22**

- Worked with Civic Integrity and 2 sister teams to improve the precision of their existing misinformation classifier (XGBoost-based) by 30% to be deployed into production to score millions of tweets a week.

Visiting Researcher, Oxford University and the Integrity Institute **Aug '21 - Present**

- Leading collaboration between NYU CSMAP, the [Integrity Institute](#) (ex-tech employees), and the Torr Vision Lab.
- Simulating the impact of influence operations on ranking and recommender systems on social networks.
- First-author paper invited for an Oral presentation at the [AI4ABM](#) Workshop at ICML 2022.

Research Asst., Center for Social Media and Politics (CSMAP), New York **Feb '21 - Present**

- Analyzing the causal impact of Twitter's interventions on Donald Trump's tweets spreading misinformation.
- Created [SimPPL](#): Simulating Social Networks with Probabilistic Programs presented at Facebook, Twitter.
- Paper on modeling policy interventions for epidemiology models accepted at [PROBPROG 2021](#), [MIT](#).

Data Science Research Intern (Summer + Fall), Adobe Inc., San Jose **May - Dec '20**

- Trending Hashtag Recommendation for Videos; web-scraping, weakly-supervised learning, graph neural networks.
- First-author paper accepted IEEE Intl. Symposium on Multimedia '21, ([link](#)), *U.S. Patent App: P10634-US*.

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.
- Built and deployed the 'DeepJet' deep learning framework into production across **42 global sites**.
- Used Tensorflow, Python, and custom C++ extensions for multithreaded operations ([preprint](#)).

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 paper, receiving a special mention in the ML track at Springer ICIICS, 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 'Skill Development in Animation' catering to over 5,000 participants on the IITBombayX platform; edX Prize Finalist, 2019.
- Published a first-author short paper at IEEE International Conference on Advanced Learning Technologies, 2018.

SWE Intern, Smokescreen Tech. (acq. by Zscaler Inc.), 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.

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SWE Intern, Falconry Software Solutions, Mumbai

July '16 - Sept '16

- Developed and deployed real-time data streaming and subscription-based alerts in the three client connectors released as open-source codebases in [Java](#), [Python](#) and [Javascript](#).

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](#)” app.
- Presented the project to Microsoft Research and a committee of IIT-B faculty (video: [bit.ly/iitblokacart](#)).

SELECTED PUBLICATIONS

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

- **Invited Talk, SimPPL: Using simulations to combat online disinformation.**
 - Truth and Trust Online, Boston (upcoming)
 - UC Berkeley (upcoming)
 - MIT Media Lab, Sept. 2022
 - Misinfocon at DEFCON, August 2022
- **Oral Presentation. Estimating the Impact of Coordinated Inauthentic Behavior on Content Recommendation in Social Networks**, S. Mehta et al., *AI for Agent-based Modeling (AI4ABM) Workshop*, ICML 2022.
- **Oral Presentation. Estimating the Causal Effect of Twitter's Interventions on Trump's Tweets**, S. Mehta, J. Bisbee, J. Nagler, J. Tucker, *Stanford Internet Observatory Trust and Safety Conference*, 2022.
- **Open-domain Trending Hashtag Recommendation for Videos**, S. Mehta, et al., *IEEE International Symposium on Multimedia (ISM)*, 2021.
- **Compartmental Models for COVID-19 and Control via Policy Interventions**, S. Mehta and N. Kasmanoff, *International Conference on Probabilistic Programming (PROBPROG)*, MIT, 2021.
- **ML Track: Special Mention. A Big Data Architecture for Log Data Storage and Analysis**, S. Mehta, P. Kothuri, D. Garcia, *Integrated Intelligent Computing, Communication and Security*. Springer, Singapore, 2019.
- **Anomaly Detection for Network Connection Logs**, S. Mehta, P. Kothuri, D. Garcia.
- **DeepJet: A Machine Learning Environment for High-energy Physics**, S. Mehta et al., 2018, *preprint*.
- **Lead Organizer**, AI for Everyone Workshop, Computation + Journalism, Columbia University, 2022
- **Invited Talks, Interventions to Limit Misinformation in Social Networks**
 - Google Research (upcoming)
 - Twitter Cortex, Dec. 2021
 - Facebook AI Research, Nov. 2021
- **Tutorial on Probabilistic Programming**, Flatiron Institute's Computational Biology Group, July 2021.
- **DeepJet: A Machine Learning Environment for High-energy Physics**, S. Mehta et al., 2018.
Invited Poster Presentation at Nvidia GPU Tech Conference 2019, USA;
Google Cloud Poster Award at the Deep Learning Indaba 2018, South Africa;
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.