Aparimit Kasliwal

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Education

May, 2024 - Present	PhD (Systems Engineering) **UC Berkeley, CA** *Designated Focus*: Computational Data Science & Engineering. *Research Focus*: Network Science, Mobility Modeling, Learning Representations for Spatial Graphs, System Resilience.	(Major GPA: 4.0/4.0)
Aug, 2023 - May, 2024	MS (Systems Engineering) **UC Berkeley, CA**	(GPA: 3.87/4.0)
	Graduate Certificate in Applied Data Science	(GPA: 4.0/4.0)
Jul, 2019 - May, 2023	BTech (Civil Enigneering) **IIT Delhi, India**	(GPA: 8.14/10.0)

Featured Publications

Ayse Tugba O., **Aparimit K.** et al. (2025). "A Mesoscopic Model of Vehicular Emissions Informed by Direct Measurements and Mobility Science". In: *Under Review at Sustainable Cities & Society.*

Shangqing C. **Aparimit K.** Masoud R. Francesc R., Mark H. (Nov. 2024). "Effective Management of Airport Security Queues with Passenger Reassignment". In: *Accepted to Proceedings of IWAC (International Workshop on Air Traffic Management, Communication, Navigation, and Surveillance) 2024.* URL: https://arxiv.org/pdf/2407.00951.

Projects

- **Modeling Multi-Scale Dynamics on Hierarchical Networks** Project Description
  - Infection spread modeling (COVID-19, Traffic Congestion) through Network-level SIR Models
  - Consistency in parameters at hierarchical scales ensured through Mean-Field Approximation
- **Pricing & Matching Policy Development for Ride-sharing** Course Description
  - Spatial modeling of demand patterns through Uber H3 Indexing for pricing riders accordingly
  - Development of state-based, dynamic, and optimal pricing & matching policies for ride-sharing

Skills

Programming:	Python, Git, Bash, Scientific & Statistical Computing, MATLAB, NetworkX
Machine Learning:	Code Parallelization, JAX, Pytorch, PyG, Graph Representation Learning
Technical Skills:	Geo-tagged Data, Map Matching, Trajectory Generation, Uber H3, Networks

Graduate Level Coursework

CS 267: Applications of **Parallel Computers**

EECS 227AT: **Optimization** Models

CE 291D: **Data-Driven Control** Methods

INFO 251: Applied **Machine Learning**

CS 294-179: **Networks** & Spread of **(Mis)Information**

STAT 243: **Statistical Computing**

CE 263H: Human **Mobility & Network** Science

CE 290I: **Control & Information** Management

Last updated: January 23, 2025