Vishal Srivastava

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EDUCATION

2019	Bachelor of Technology, IIT KANPUR
	Major: Electrical Engineering
	GPA: 7.9/10

EXPERIENCE / PROJECTS

JUL '19 - PRESENT | **DATA SCIENTIST**, Microsoft AI + R, India

- Product2Product recommendation system
  - trained an end-to-end model to obtain multi-modal embeddings of Product Ads for Bing Shopping
  - built a graph of ProductAds using user click logs, and obtained graph embeddings
  - finetuned the concatenated vectors using a Siamese network on positive and negative pairs
- Query Clustering based on intent
  - designed a Recurrent VAE for obtaining latent representation of search-engine queries
  - utilised β-VAE objective to enforce independence among latent vectors dimension
  - clustered the latent vectors to obtain distinct query-intents in several domains

MAY '18 - JUL '18 | **RESEARCH INTERN**, GIPSA Lab, Grenoble INP
Advisor: *Dr. Nicolas Tremblay*

Sampling with Determinantal Point Process
- Sampling in community structured graphs using DPPs
- Implemented Wilson's algorithm to approximate k-DPPs
- Improved performance in above using non-uniform quit-probability proportional to node-energy

JAN '18 - APR '19 | **UNDERGRADUATE RESEARCHER**, IIT Kanpur
Advisor: *Dr. Ketan Rajawat*

- Matrix Completion on Graphs
  - Investigated the problem of matrix completion as a graph-signal interpolation
  - obtained low-rank latent vectors on Netflix Prize dataset
  - Solved the above problem assuming local stationarity in graphs
- Large scale graph structure learning
  - Studied the problem of graph weights inference from smooth signals over large graphs
- Optimal Sensor Placement
  - investigated the problem of node selection for a signal from Gaussian Process
  - framed a combinatorial problem of sampling a subset of nodes based on mutual information maximization

MAY '19 - JUL '19 | **RESEARCH INTERN**, MNNIT Allahabad
Advisor: *Dr. Rajeev Tripathi, Director*

Optimal Sparse Sensor Selection for Urban Traffic
- obtain best subset of locations in the city to deploy traffic monitoring
- Implemented InSense algorithm on traffic data of 2 months during a city festival

TECHNICAL SKILLS

- PyTorch/Keras, C++/C Python, SQL

RELEVANT COURSEWORK

Statistical Signal Processing	Data Structures and Algorithms	Matrix Theory and Linear Estimation
Convex Optimisation	Applied Stochastic Process	Introduction to Bayesian Analysis

SCHOLASTIC ACHIEVEMENTS

2018	Awarded ANITA AND SANTOSH MEHRA SCHOLARSHIP by IIT Kanpur for good academic performance in the department
2017	Awarded **Academic Excellence Award** by IIT Kanpur for academic year 2015-16
2015	**Kishore Vaigyanik Protsahan Yojna (KVPY)** Fellowship by Govt. of India
2013	**National Talent Search (NTSE)** Scholarship by Govt. of India

POSITIONS OF RESPONSIBILITY

(Apr'16 - Apr'17)	**Academic Mentor**, *Counselling Service,* IIT Kanpur
	Tutored freshmen with their difficulties in the course PHY102A in remedial classes
(Apr'16 - Apr'17)	**Secretary** of Fine Arts Club, IIT Kanpur
	Organized institute level art workshops and mentored freshmen in various art techniques