Vinayak Gupta

CONTACT INFORMATION

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RESEARCH INTERESTS

Deep Learning for Time-Series, Temporal Point Processes, Spatial Datasets, and Graph Neural Networks

EDUCATION

Indian Institute of Technology Delhi, India

Ph.D. Candidate, Computer Science. July 2017 – July 2022 (expected)

- Dissertation Topic: "Modeling Time-Series and Spatial data for Recommendation and Other Applications"
- Advisor: Srikanta Bedathur

Indian Institute of Information Technology Jabalpur, M.P., India

B.Tech., Computer Science and Engineering. July 2013 – May 2017

PROFESSIONAL EXPERIENCE

Indian Institute of Technology Delhi July 2017 – June 2022

Research Assistant
Includes the current Ph.D. research, graduate level teaching assistant-ship, and coursework.

Amazon Inc. Jan. 2022 – June 2022

Applied Science Intern
Worked with the ML team on time-sensitive reward distribution for users in Amazon Pay. The project involved modeling the periodicity and missing events in the transaction records of users.

Siemens Healthcare AG May 2016 – Jan. 2017

Research Intern
Designed ML models to improve the image quality during radiography and fluoroscopy.

PUBLICATIONS

V. Gupta and S. Bedathur. ProActive: Self-Attentive Temporal Point Process Flows for Activity Sequences. 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**). 2022.

V. Gupta, S. Bedathur, and A. De. Learning Temporal Point Processes for Efficient Retrieval of Continuous Time Event Sequences. 36th AAAI Conference on Artificial Intelligence (**AAAI**). 2022.

V. Gupta, S. Bedathur, S. Bhattacharya, and A. De. Modeling Continuous Time Sequences with Intermittent Observations using Marked Temporal Point Processes. ACM Transactions on Intelligent Systems and Technology (**TIST**). 2022.

V. Gupta and S. Bedathur. Doing More with Less: Overcoming Data Scarcity for POI Recommendation via Cross-Region Transfer. ACM Transactions on Intelligent Systems and Technology (**TIST**). 2022.

V. Gupta, S. Bedathur, S. Bhattacharya, and A. De. Learning Temporal Point Processes with Intermittent Observations. 24th International Conference on Artificial Intelligence and Statistics (**AISTATS**). 2021.

V. Gupta and S. Bedathur. Region Invariant Normalizing Flows for Mobility Transfer. 30th ACM Intl. Conference on Information and Knowledge Management (**CIKM**). 2021.

A. Likhyani*, **V. Gupta***, P. K. Srijith, P. Deepak, and S. Bedathur. Modeling Implicit Communities from Geo-tagged Event Traces using Spatio-Temporal Point Processes. 21st Intl. Conference on Web Information Systems Engineering (**WISE**). 2020.

S. Maurya*, **V. Gupta***, and V.K. Jain. LBRR: Load Balanced Ring Routing Protocol for Heterogeneous Sensor Networks with Sink Mobility. IEEE Wireless Communications and Networking Conference (**WCNC**). 2017.

Papers in Preparation

V. Gupta and S. Bedathur. Modeling Spatial Trajectories using Coarse-Grained Smartphone Logs.

S. Arora, **V. Gupta**, G. Gaur, and S. Bedathur. BERT Meets Relational DB: Contextual Representations of Relational Databases.

Posters

V. Gupta. A Neural Approach for Modeling Continuous Time Sequences with Intermittent Observations. ACM India Academic Research and Careers for Students Symposium. 2022. [**Oral**]

V. Gupta. Learning Neural Models for Continuous-Time Sequences. First International Conference on AI-ML Systems: Doctoral Symposium. 2021.

Honors and Awards

Among Top-3 Finalists for the NASSCOM AI Game-Changer Award.	2022
Microsoft Research Travel Grant to attend ACM SIGKDD.	2022
Outstanding Doctoral Paper Award: The First Intl. Conference on AI-ML Systems.	2021
ACM SIGIR Student Grant for CIKM.	2021
All India 9th Rank in ABU Robocon.	2015
B.Tech Project selected for Make In India: Quality Improvement Program.	2015
Top 2% in Joint Entrance Exam (JEE) Mains among 1.4 million candidates.	2013

Courses

- **Teaching Assistant**: Information Retrieval, Machine Learning, Data Mining, Data Structures, Computer Networks, and Intro. to Programming.
- **Credit**: Deep-, Machine- & Reinforcement-Learning, Computer Architecture, Network Security, Software Engineering, and Game Theory.

Reviewer

SIGIR 2022, AAAI 2022, WSDM 2022, WWW 2022, and ICML 2022: Subset Selection Workshop.

Skills

- **Proficient**: Python – Tensorflow, Keras, Pytorch, MATLAB, PHP, and AWS.
- **Intermediate**: C, C++, MySQL, and PySpark.

Selected Presentations

Technical University of Munich.	June 2022
NASSCOM AI Game-Changer Award Ceremony.	June 2022
ACM Academic Research and Careers for Students (ARCS) Symposium.	Feb. 2022
Amazon Research Days.	Dec. 2021
MIT-IBM AI Research Week.	Sept. 2021
Research Symposium, IIT Delhi.	Dec. 2019
Siemens Innovation Research Lab Exhibition (IRLE).	July 2016
Make in India: Quality Improvement Program.	Dec. 2015

Other Activities

- Administrator of four high-performance GPU servers at CSE, IIT Delhi.
- Rhythm guitarist in the institute rock band during UG.

References

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