

Vinayak Gupta

CONTACT INFORMATION

IBM Research
5th Floor, Tower C, DLF Cyber City
Gurugram, Haryana, 122022, India

Voice: (+91) 8368416976
E-mail: guptavinayak51@gmail.com
WWW: <https://gvinayak.github.io>

RESEARCH INTERESTS

Deep Learning for Time-Series, Recommendation Systems, Temporal Point Processes, Spatial Data Mining, Transfer Learning, and Graph Neural Networks.

EDUCATION

Indian Institute of Technology (IIT) Delhi, India

Ph.D., Data Mining.

July 2017 – July 2022

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

Indian Institute of Information Technology (IIIT) Jabalpur, M.P., India

B.Tech., Computer Science and Engineering.

July 2013 – May 2017

INDUSTRY EXPERIENCE

IBM Research

Aug 2022 – Present

Research Scientist

Currently working in the AI research team to include temporal context in natural language models.

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 and S. Bedathur. Modeling Spatial Trajectories using Coarse-Grained Smartphone Logs. IEEE Transactions on Big Data (**TBD**). 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.

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
Review Score of 10/10 with a comment “ground-breaking” for AISTATS paper.	2021
All India 9th Rank in ABU Asia-Pacific Robocon.	2015
Project selected for ‘Make In India’, the government’s flagship manufacturing initiative.	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

AAAI 2022-23, SIGIR 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
Doctoral Symposium: First International Conference on AI-ML Systems.	Nov. 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.
- Assistant for the Ph.D./M.S. selection committee for Fall 2020 and Spring 2021.

REFERENCES

Srikanta Bedathur
 Department of Computer Science
 Indian Institute of Technology Delhi
 srikanta@cse.iitd.ac.in

Abir De
 Department of Computer Science
 Indian Institute of Technology Bombay
 abir@cse.iitb.ac.in