Avirup Saha

2nd Floor, P-128 Lake Terrace, Kolkata - 700029, West Bengal, India.

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asaha92125

Born 21 August 1992

WORK EXPERIENCE

October 28, 2021 – Present

Research Scientist

IBM Research - India, Bangalore

- Department: Intelligent Process Automation

June 25, 2019 – March 31, 2021

Project Officer - Research

Sponsored Research and Industrial Consultancy, IIT Kharagpur, Kharagpur

- Project sponsored by MHRD, New Delhi
- Principal Investigator: Dr. Pawan Goyal, IIT Kharagpur.

February 1, 2018 – Decebmer 31, 2018

Junior Research Fellow

Sponsored Research and Industrial Consultancy, IIT Kharagpur, Kharagpur

- Project sponsored by ITRA, Mumbai
- Principal Investigator: Dr. Niloy Ganguly, IIT Kharagpur.

May 12, 2017 – January 31, 2018

Junior Research Fellow

Sponsored Research and Industrial Consultancy, IIT Kharagpur, Kharagpur

- Project sponsored by Hewlett Packard (India) Software Operations Private Limited, Bangalore
- Principal Investigator: Dr. Niloy Ganguly, IIT Kharagpur.

INTERNSHIP EXPERIENCE

May 2020 – August 2020

Research Intern

IBM Research - India, Bangalore

- Research Internship Project: **Entity Re-resolution with Temporal Point Processes**
- Worked with Balaji Ganesan on the use of Dirichlet Hawkes Process in a distributed fashion for Entity Re-resolution.
- Technologies used: Python, Apache Spark.

July 2018 – September 2018

Research Intern

Flipkart Internet Private Limited, Bangalore

- Research Internship Project: **Graph-based Semi-Supervised Learning**
- Worked with Samik Datta on developing a new theory for Graph-based Semi-Supervised Learning algorithms.

May 2016 – July 2016 Student Trainee

Samsung Research Institute, Bangalore

- Summer Internship Project: **Texture Compression**
- Developed a new texture compression algorithm based on rectangular bin packing for Android smartphones.
- Technology used: OpenCV.

EDUCATION

2017 – 2022 Ph.D. in Computer Science

IIT Kharagpur

- Thesis defended on: February 24, 2022
- Area of Research: Temporal Point Processes and Graph-based Semi-Supervised Learning
- Supervisor: Dr. Niloy Ganguly
- Thesis title: **"Modeling Self-Reinforcement and Inter-Competition in Multivariate Temporal Point Processes and Graph-based Semi-Supervised Learning"**
- Attached to the Complex Networks Research Group (CNeRG), IIT Kharagpur. **(Link to Website)**

2012 – 2017 B.E. in Computer Science & Engineering

Jadavpur University, Kolkata, India

- Percentage of Total Marks: 86.16, CGPA: 9.13 (First class)
- Received the **M.R. Mitra Memorial Award** (Citation and Gold Medal) from the Alumni Association of NCE Bengal and Jadavpur University based on academic performance in the B.E. (CSE) program
- Received the **TCS Award** (Citation and Gold Medal) for Best Software Project in the B.E. (CSE) program.

2011 Higher Secondary

South Point High School, Kolkata

- Percentage of Total Marks (all subjects): 88.14 (First class)
- Received the **MP Birla Smarak Kosh Award** (gold-centered silver medal) for academic performance
- Received **DST Inspire Scholarship for Higher Education** on merit of performance in the Class XII Board Examinations

2009 Secondary

South Point School, Kolkata

- Percentage of Total Marks (all subjects): 88.00 (First class)

SKILLS

Languages Python, Java, C++

Programming skills Machine Learning

- Tensorflow
- PyTorch

Strengths
- Research problem formulation
- Strategic planning and creating roadmaps for research projects
- Mentoring junior researchers as project guide

Key Responsibility Areas: Artificial Intelligence

PC/REVIEWER ASSIGNMENTS

Conferences
- PC, AAAI 2021
- Reviewer, NAACL-HLT 2021
- Reveiwer, ACL 2020

OTHER ACHIEVEMENTS

QIF Finalist
- Finalist, Qualcomm Innovation Fellowship India, 2019. Innovation Title: **"Mobile Network Traffic Modeling with Temporal Point Processes"**.
- Finalist, Qualcomm Innovation Fellowship India, 2020. Innovation Title: **"TRACK: A Reinforcement Learning Framework For Early Detection of BGP Hijacks"**.

TRAVEL GRANTS

CIKM 2018
- Google and Microsoft Travel Grants for attending CIKM 2018 at Turin, Italy

INFOCOM 2019
- Microsoft and ACM India-IARCS Travel Grants for attending IEEE INFOCOM 2019 at Paris, France

CIKM 2020
- ACM SIGIR Grant for attending CIKM 2020 (Virtual Event, Ireland)

OTHER ACTIVITIES

NetApp University Day, 2019: Participated in NetApp University Day, 2019 at NetApp India, Bangalore.

ACM-MSR Academic Research Summit, 2018: Participated in ACM-MSR Academic Research Summit, 2018 at IIIT Hyderabad.

USEFUL LINKS

Personal Website: **https://ascarathira.github.io/**

LinkedIn: **https://www.linkedin.com/in/asaha92125/**

DBLP: **https://dblp.uni-trier.de/pers/hd/s/Saha:Avirup**

Google Scholar: **https://scholar.google.com/citations?user=seifyZEAAAAJ&hl=en**

PUBLICATIONS

Conferences

- Sheshadri, Shreyas, **Avirup Saha**, Priyank Patel, Samik Datta, and Niloy Ganguly. **"Graph-based semi-supervised learning through the lens of safety."** In Uncertainty in Artificial Intelligence, pp. 1576-1586. PMLR, 2021. **(Link)**
- Kaushal, Ayush, **Avirup Saha**, and Niloy Ganguly. **"tWT–WT: A Dataset to Assert the Role of Target Entities for Detecting Stance of Tweets."** In Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT '21), pp. 3879-3889. 2021. **(Link)**
- Ganesan, Balaji, **Avirup Saha**, Jaydeep Sen, Matheen Ahmed Pasha, Sumit Bhatia, and Arvind Agarwal. **"Anu question answering system."** In ISWC (Demos/Industry). 2020. **(Link)**
- **Avirup Saha** and Niloy Ganguly. 2020. **"A GAN-based Framework for Modeling Hashtag Popularity Dynamics Using Assistive Information."** In Proceedings of the 29th ACM International Conference on Information & Knowledge Management (CIKM '20). Association for Computing Machinery, New York, NY, USA, 1335–1344. DOI:https://doi.org/10.1145/3340531.3412025. **(Link)**
- T.Y.S.S Santosh, **Avirup Saha**, and Niloy Ganguly. 2020. **"MVL: Multi-View Learning for News Recommendation."** In Proceedings of the 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '20). Association for Computing Machinery, New York, NY, USA, 1873–1876. DOI:https://doi.org/10.1145/3397271.3401294. **(Link)**
- **Saha, Avirup**, Shreyas Sheshadri, S. Datta, Niloy Ganguly, D. Makhija and Priyank Patel. **"Understanding the Success of Graph-based Semi-Supervised Learning using Partially Labelled Stochastic Block Model."** IJCAI (2020). **(Link)**
- **Saha, Avirup**, Niloy Ganguly, Sandip Chakraborty, and Abir De. **"Learning Network Traffic Dynamics Using Temporal Point Process."** In IEEE INFOCOM 2019-IEEE Conference on Computer Communications, pp. 1927-1935. IEEE, 2019. **(Link)**
- **Saha, Avirup**, Bidisha Samanta, Niloy Ganguly, and Abir De. **"CRPP: Competing Recurrent Point Process for Modeling Visibility Dynamics in Information Diffusion."** In Proceedings of the 27th ACM International Conference on Information and Knowledge Management, pp. 537-546. ACM, 2018 (CIKM 2018) at Turin, Italy. **(Link)**
- Santosh, T. Y. S. S., Srijan Bansal, and **Avirup Saha**. **"Can Siamese Networks help in stance detection?."** Proceedings of the ACM India Joint International Conference on Data Science and Management of Data (CODS-COMAD '19). ACM, 2019. ***[Recipient of Special Mention Award in Young Researchers' Symposium.]*** **(Link)**
- Tokala, Santosh, G. Vishal, **Avirup Saha**, and Niloy Ganguly. **"AttentiveChecker: A Bi-Directional Attention Flow Mechanism for Fact Verification."** In Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT '19), Volume 1 (Long and Short Papers), pp. 2218-2222. 2019. **(Link)**

Workshops

- **Avirup Saha** and Balaji Ganesan. **"Short Text Clustering in Continuous Time Using Stacked Dirichlet-Hawkes Process with Inverse Cluster Frequency Prior."** *Accepted at the 7th SIGKDD Workshop on Mining and Learning from Time Series (MiLeTS), 2021*. **(Link)**

Journals

- Koley, Paramita, **Avirup Saha**, Sourangshu Bhattacharya, Niloy Ganguly, and Abir De. **"Demarcating Endogenous and Exogenous Opinion Dynamics: An Experimental Design Approach."** ACM Transactions on Knowledge Discovery from Data (TKDD) 15, no. 6 (2021): 1-25. **(Link)**
- **Saha, Avirup**, and Niloy Ganguly. "Modeling Inter-process Dynamics in Competitive Temporal Point Processes." Journal of the Indian Institute of Science 101, no. 3 (2021): 455-484. **(Link)**
- Ray, Benay Kumar, **Avirup Saha**, Sunirmal Khatua, and Sarbani Roy. **"Toward maximization of profit and quality of cloud federation: solution to cloud federation formation problem."** The Journal of Supercomputing 75.2 (2019): 885-929. **(Link)**
- Ray, Benay Kumar, **Avirup Saha**, and Sarbani Roy. **"Migration cost and profit oriented cloud federation formation: hedonic coalition game based approach."** Cluster Computing 21.4 (2018): 1981-1999. **(Link)**
- B. K. Ray, **A. Saha**, S. Khatua and S. Roy, **"Quality and Profit Assured Trusted Cloud Federation Formation: Game Theory Based Approach,"** in IEEE Transactions on Services Computing, vol. 14, no. 3, pp. 805-819, 1 May-June 2021, doi: 10.1109/TSC.2018.2833854. **(Link)**
- Ray, Benay, **Avirup Saha**, Sunirmal Khatua, and Sarbani Roy. **"Proactive Fault-Tolerance Technique to Enhance Reliability of Cloud Service in Cloud Federation Environment."** IEEE Transactions on Cloud Computing (2020). **(Link)**

Book Chapters

- Samanta, Bidisha, **Avirup Saha**, Niloy Ganguly, Sourangshu Bhattacharya, and Abir De. **"Learning Information Dynamics in Online Social Media: A Temporal Point Process Perspective."** In Dynamics on and of Complex Networks, pp. 205-236. Springer, Cham, 2017. **(Link)**