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RESEARCH INTERESTS	Spatio-temporal Data Analytics, Database Tuning, Natural Language Processing, Speech Technologies, Representation Learning.		
WORK EXPERIENCE	<p><b>[March 2020 - Present] Meta, Inc.</b>, Menlo Park, United States</p> <p>[Feb 2022 - Present] <b>Senior Research Scientist</b></p> <p>[Mar 2020 - Feb 2022] <b>Research Scientist</b></p> <p>Scientist in AI Speech team responsible for creating, improving, and deploying state-of-the-art Automated Speech Recognition, Inverse Text Normalization and Punctuation-Capitalization models.</p> <p><b>[Summer 2019] Alibaba Group., AI Research Intern</b>, Sunnyvale, United States</p> <p>Workload-aware database tuning with Machine Learning.</p> <p><b>[Summer 2018] Facebook, Inc., Research Scientist Intern</b>, Seattle, United States</p> <p>Improving metrics for Facebook's Search Ranking via rated label inferences with Machine Learning.</p> <p><b>[Summer 2017] Amazon AI Research, Research Intern</b>, New York, United States</p> <p>Hyperparameter optimization techniques on MXNET.</p> <p><b>[2013-2015] Flipkart, Data Engineer</b>, Bangalore, India</p> <p>Served as data engineer at data platform team <i>flipkart.com</i>, India's biggest e-commerce company.</p> <p>Facilitated scalable environment for Big data analytics with processing pipelines for batch and stream.</p>		
EDUCATION	<p><b>[2015-2020] Ph.D., University of Utah, School of Computing</b>, Salt Lake City, Utah, USA</p> <p>Major : <i>Computer Science &amp; Engineering</i></p> <p>Advisor : <i>Prof. Feifei Li</i></p> <p>Thesis : <i>Data-Driven Spatio-Temporal Analysis for Multimode Data</i></p> <p>GPA : <i>3.96/4.0</i></p> <p><b>[2011-2013] Masters of Technology, Indian Institute of Technology Kanpur</b>, Kanpur, India</p> <p>Major : <i>Computer Science &amp; Engineering</i></p> <p>Advisor : <i>Late Prof. Sanjeev K Aggarwal</i></p> <p>Thesis : <i>Multi-constraint Job scheduling in Grid Computing</i></p> <p>GPA : <i>8.67/10.0 (Rank: 3)</i></p> <p><b>[2007-2011] Bachelors of Technology, West Bengal University of Technology</b>, Kolkata, India</p> <p>Major : <i>Computer Science &amp; Engineering</i></p> <p>College : <i>Institute of Engineering and Management</i></p> <p>CGPA : <i>8.93/10 (Rank: &lt; 10)</i></p>		
THESES	<p><b>[2020] Ph.D. Thesis, Advisor: Dr. Feifei Li</b></p> <p><i>Data-Driven Spatio-Temporal Analysis for Multimode Data.</i></p> <p>The objective of this thesis is to build a framework that enables a data-driven approach for spatio-temporal analysis for multimode data with AI models and facilitate workload-aware support for effective large-scale processing.</p> <p><b>[2013] M.Tech Thesis, Advisor: Late Dr. Sanjeev Kumar Aggarwal</b></p> <p><i>Multi-constraint Job scheduling in Grid Computing</i></p> <p>The objective is to efficiently schedule Jobs on Grid Computing to achieve maximum utilization of resources with energy efficient approach. Modeling real world computing &amp; storage grid on Multi-objective Evolutionary Algorithm satisfying hard constraints on jobs constraints, resources constraints, and soft constraints on cost, and energy consumption.</p>		
PUBLICATIONS	<p>+ Language Agnostic Data-Driven Inverse Text Normalization, Szu-Jui Chen, <b>Debjyoti Paul</b>, Yutong Pang, Peng Su, Xuedong Zhang. <i>ICASSP 2023. (In Submission)</i>.</p> <p>+ Improving Data Driven Inverse Text Normalization using Data Augmentation and Machine Translation, <b>Debjyoti Paul</b>, Yutong Pang, Sray Chen, Xuedong Zhang, <i>Interspeech 2022 Show and Tell</i>, Incheon, Korea, September 2022.</p>		

- + Improving Data Driven Inverse Text Normalization using Data Augmentation, Laxmi Pandey, **Debjyoti Paul**, Pooja Chitkara, Yutong Pang, Xuedong Zhang et al. *CS arXiv:2207.09674* (2022).
- + Database Workload Characterization with Query Plan Encoders, **Debjyoti Paul**, Jie Cao, Feifei Li, Vivek Srikumar, *48th International Conference on Very Large Data Bases (VLDB 2022)*, Sydney, Australia, 2022. DOI: [10.14778/3503585.3503600](https://doi.org/10.14778/3503585.3503600)
- + Semantic Embedding for Regions of Interest, **Debjyoti Paul**, Feifei Li, Jeff M. Phillips, *The International Journal on Very Large Data Bases (VLDBJ 2021)*. DOI: [10.1007/s00778-020-00647-0](https://doi.org/10.1007/s00778-020-00647-0).
- + Bursty Event Detection Throughout Histories, **Debjyoti Paul**, Yanqing Peng, Feifei Li, *35th IEEE International Conference on Data Engineering (ICDE 2019)*, Macau, China, 2019. DOI: [10.1109/ICDE.2019.00124](https://doi.org/10.1109/ICDE.2019.00124)
- + Compass: Spatio Temporal Sentiment Analysis of US Election, **Debjyoti Paul**, Feifei Li, Murali Krishna Teja, Xin Yu, Richie Frost, *What twitter says!, 23rd SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)*, Aug 13-17, 2017, Halifax, Canada. DOI: [10.1145/3097983.3098053](https://doi.org/10.1145/3097983.3098053).
- + AI Pro: Data Processing Framework for AI Models, **Debjyoti Paul**, Richie Frost, Feifei Li, *35th IEEE International Conference on Data Engineering (ICDE)*, Macau, China, 2019. DOI: [10.1109/ICDE.2019.00219](https://doi.org/10.1109/ICDE.2019.00219).
- + Geotagged US Tweets as Predictors of County-Level Health Outcomes, 2015–2016, Quynh C. Nguyen, Matt McCullough, Hsien-wen Meng, **Debjyoti Paul**, Dapeng Li, *American Journal of Public Health (AJPH)*, September, 2017, DOI: [10.2105/AJPH.2017.303993](https://doi.org/10.2105/AJPH.2017.303993).
- + Social media indicators of the food environment and state health outcomes, Quynh C. Nguyen, Hsien-wen Meng, Dapeng. Li, Matt McCullough, **Debjyoti Paul**, Kanokvimankul. P, Nguyen. T, Li. Feifei, *American Public Health Association (APHA)*, 148, 120-128., 2017, DOI: [10.1016/j.puhe.2017.03.013](https://doi.org/10.1016/j.puhe.2017.03.013).
- + Multi-objective Evolution based Dynamic Job Scheduler in Grid, **Debjyoti Paul**, Sanjeev K. Aggarwal, *The 8th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS)*, IEEE, July 2nd - 4th, 2014, Birmingham, UK. DOI: [10.1109/CISIS.2014.50](https://doi.org/10.1109/CISIS.2014.50).
- + RCached-tree: An Index Structure for Efficiently Answering Popular Queries, Manash Pal, Arnab Bhattacharya, **Debjyoti Paul**, *ACM International Conference on Information and Knowledge Management (CIKM 2013)*, Oct. 27 - Nov. 1, 2013, San Francisco, CA, USA. DOI: [10.1145/2505515.2507817](https://doi.org/10.1145/2505515.2507817).

#### POSITION OF RESPONSIBILITIES

- [**2021**] Program Committee Member for 47th International Conference on Very Large Data Bases (VLDB) 2021, Industrial Track.
- [**2021**] Program Committee Member for 37th IEEE International Conference on Data Engineering (ICDE) 2021, Industrial Track.
- [**2016-2023**] Reviewer: ISCA Interspeech 2023, ICASSP 2023, IEEE ICDE 2021, PVLDB (2019, 2021), IEEE TKDE (2018, 2019, 2020), EDBT 2016,
- [**2015-2019**] Teaching Mentor and Lecture: Natural Language Processing (CS6340), Data Mining (CS 6140), Database Systems (CS 6530) at the University of Utah. USA.
- [**2012-2013**] Member and organizer of SIGDATA, a Special Interests Group on data management and mining at the IIT Kanpur, India.
- [**2011-2013**] Teaching assistant: Software Engineering (CS455), Fundamentals of Computer Science (ESC101) at IIT Kanpur.

#### HACKATHON TROPHIES

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| [ <b>2017</b> ] HackTheU      | HackTheU MLH Hackathon Winner (around 40 teams)                    |
| [ <b>2016</b> ] EMC2 Code     | <a href="#">Mars Challenge</a> Hackathon Winner (around 45 teams)  |
| [ <b>2015</b> ] Goldman Sachs | Air Quality Hackathon 1st Runners-up (around 30 teams)             |
| [ <b>2014</b> ] InMobi        | Freedom Hack Worldwide Hackathon 1st Runners-up (around 160 teams) |
| [ <b>2013</b> ] Yahoo         | Yahoo HackU 2013 Hackathon Winner (around 40 teams)                |

#### ACHIEVEMENTS

- [**2012**] Secured **All India Rank 228** out of 160,000+ (99.85 percentile) participants in Graduate Aptitude Test for Engineering (GATE) 2012, Computer Science. Secured **All India Rank 223** out of 150,000+ participants in Graduate Aptitude Test for Engineering (GATE) 2011, Computer Science.
- [**2011**] **All India Rank 7** (99.99 percentile) in Indian Space Research Organization (ISRO) Junior Research Fellow Exam.