

RISHABH RANJAN

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EDUCATION

Doctor of Philosophy (Ph.D.) in Computer Science
Stanford University

2023 – present
CGPA 4.00/4

Bachelor of Technology (B.Tech.) in Computer Science and Engineering
Indian Institute of Technology Delhi

2018 – 22
CGPA 9.90/10, Institute Rank 1

AWARDS

- **School of Engineering Fellowship**, awarded to select first-year PhD students at Stanford 2023
- **President's Gold Medal** for highest CGPA in graduating batch at IIT Delhi 2022
- **Suresh Chandra Memorial Trust Award** for best undergrad thesis project in CS 2022
- All India Rank 154 in **Joint Entrance Examination (Advanced)** among 200,000+ candidates 2018
- **Certificate of Merit** for excellent performance in the **Indian National Mathematical Olympiad** 2017

PAPERS

(* denotes equal contribution)

1. Rishabh Ranjan, Saurabh Garg, Mrigank Raman, Carlos Guestrin, Zachary Lipton. **Post-Hoc Reversal: Are We Selecting Models Prematurely?** *arXiv preprint*, 2024 [PDF] [Code]
2. Matthias Fey*, Weihua Hu*, Kexin Huang*, Jan Eric Lenssen*, Rishabh Ranjan*, Joshua Robinson*, Rex Ying, Jiaxuan You, and Jure Leskovec. **Position: Relational Deep Learning - Graph Representation Learning on Relational Databases.** In *International Conference on Machine Learning (ICML)*, 2024 [PDF] [Code] [Website]
3. Yatin Nandwani*, Rishabh Ranjan*, Mausam, and Parag Singla. **A solver-free framework for scalable learning in neural ILP architectures.** In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022 [PDF] [OpenReview] [Poster] [SlidesLive] [Code]
4. Rishabh Ranjan, Siddharth Grover, Sourav Medya, Venkatesan Chakaravarthy, Yogish Sabharwal, and Sayan Ranu. **GREED: A neural framework for learning graph distance functions.** In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022 [PDF] [OpenReview] [Poster] [SlidesLive] [Code]
5. Rishabh Ranjan, Ishita Agrawal, and Subodh Sharma. **Exploiting epochs and symmetries in analysing MPI programs.** In *Proceedings of the 37th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, 2022 [PDF] [Code]

TALKS

1. **Exploiting symmetry for scalable deadlock detection in message passing programs** 2020
IARCS SAT+SMT Workshop [Recording]

INTERNSHIPS

Deep Learning on Noisy Data
Supervisor: Prof. Zachary Lipton

Oct '22 – Aug '23
Carnegie Mellon University, Pittsburgh PA, USA

- Conducted research full-time as a Visiting Scholar at CMU.
- Resulting publication: **Post-Hoc Reversal: Are We Selecting Models Prematurely?** [arXiv]

Semantic Search in SmartTV via Natural Language Processing [Code] [Presentation]
Supervisor: Jongjin Bae

May '21 – Jul '21
Samsung Electronics Co. Ltd., South Korea

- Explored SOTA document retrieval techniques with language models like *BERT* and *RoBERTa*
- Integrated *HuggingFace* transformers with *ElasticSearch* via *Docker* containers into a prototype search engine
- Improved performance on *Mean Reciprocal Rank* metric by 20% over a strong baseline in *production* at the time

ACADEMIC SERVICE

Reviewer, *Neural Information Processing Systems (NeurIPS)*, 2023

External Reviewer, *Web Search and Data Mining (WSDM)* 2023

SELECTED COURSES

Stanford. Language Modeling from Scratch, Machine Learning with Graphs

CMU. Philosophical Foundations of Machine Intelligence

IIT Delhi. Natural Language Processing, Deep Learning, Machine Learning, Artificial Intelligence, Data Mining, Linear Algebra, Probability and Stochastic Processes, Calculus, Language and Writing Skill