RISHABH RANJAN

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EDUCATION

Doctor of Philosophy (Ph.D.) in Computer Science   *2023 – present*
Stanford University, advised by Prof. Jure Leskovec   CGPA 4.00/4
<u>Relevant courses:</u> *Language Models from Scratch, Machine Learning with Graphs*

Visiting Research Scholar   *2022 – 23*
Carnegie Mellon University, hosted by Prof. Zachary Lipton
<u>Relevant courses:</u> *Philosophical Foundations of Machine Intelligence*

Bachelor of Technology (B.Tech.) in Computer Science and Engineering   *2018 – 22*
Indian Institute of Technology Delhi   CGPA 9.90/10, **Institute Rank 1**
<u>Relevant courses:</u> *Deep Learning, Natural Language Processing, Machine Learning, Artificial Intelligence, Data Mining, Linear Algebra, Probability and Stochastic Processes, Calculus, Language and Writing Skill*

AWARDS

- **Certificate of Achievement** for a top leaderboard position in the course "Language Models from Scratch"   *2024*
- **School of Engineering Fellowship,** awarded to select first-year PhD students at Stanford   *2023*
- **President's Gold Medal** for highest CGPA in the graduating batch at IIT Delhi   *2022*
- **Suresh Chandra Memorial Trust Award** for the best undergrad thesis project in CS   *2022*
- All India Rank **154** in **Joint Entrance Examination (Advanced)** among 200,000+ qualified candidates   *2018*
- **Certificate of Merit** for excellent performance in the **Indian National Mathematical Olympiad**   *2017*

PAPERS

(* denotes equal contribution)

1. <u>Rishabh Ranjan</u>, Saurabh Garg, Mrigank Raman, Carlos Guestrin, Zachary Lipton. **Post-Hoc Reversal: Are We Selecting Models Prematurely?** In *Advances in Neural Information Processing Systems (NeurIPS)*, 2024

2. <u>Rishabh Ranjan</u>*, Joshua Robinson*, Weihua Hu*, Kexin Huang*, Jiaqi Han, Alejandro Dobles, Matthias Fey, Jan E. Lenssen, Yiwen Yuan, Zecheng Zhang, Xinwei He, Jure Leskovec. **RelBench: A Benchmark for Deep Learning on Relational Databases.** In *Advances in Neural Information Processing Systems (NeurIPS)*, 2024

3. Matthias Fey*, Weihua Hu*, Kexin Huang*, Jan Eric Lenssen*, <u>Rishabh Ranjan</u>*, 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

4. Yatin Nandwani*, <u>Rishabh Ranjan</u>*, Mausam, and Parag Singla. **A solver-free framework for scalable learning in neural ILP architectures.** In *Advances in Neural Information Processing Systems (NeurIPS)*, 2022

5. <u>Rishabh Ranjan</u>, 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

6. <u>Rishabh Ranjan</u>, 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

TALKS

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

INTERNSHIPS

Semantic Search in SmartTV via Natural Language Processing Supervisor: *Jongjin Bae 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*