RISHABH RANJAN

rishabhranjan0207@gmail.com +1 (650)-546-5853 rishabh-ranjan.github.io

Education

Doctor of Philosophy (Ph.D.) in Computer Science *2023 – present*
Stanford University CGPA **4.00**/4

Bachelor of Technology (B.Tech.) in Computer Science and Engineering *2018 – 22*
Indian Institute of Technology Delhi 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*, 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

2. Rishabh Ranjan, 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

3. 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

4. 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

5. 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

6. 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

Talks

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

Internships

Deep Learning on Noisy Data *Oct '22 – Aug '23*
Supervisor: *Prof. Zachary Lipton* *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?**

Semantic Search in SmartTV via Natural Language Processing [Code] [Presentation] *May '21 – Jul '21*
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*

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