Soumya Sanyal

Contact Information

2E, Bishal Residency
96, Italgacha Road, Kolkata-700028

Email: sanyal.soumya8@gmail.com
Website: soumyasanyal.github.io

Research Interests

I am broadly interested in Deep Learning on Graphs and Natural Language Processing. My recent research has focused on learning and inference over graphs, knowledge graph completion and representation learning of molecules and materials.

Education

University of Southern California, Los Angeles, CA — 2020 –
Ph.D. in Computer Science
Advisor: Xiang Ren

Indian Institute of Technology, Kharagpur, India — 2012 – 2016
B.Tech in Electronics and Electrical Communication
Minor in Computer Science

Work Experience

Indian Institute Science, Bangalore, India — Aug 2018 – June 2020
Research Assistant, MALL Lab
Hosted by *Partha Talukdar*, Department of Computational and Data Sciences, IISc (supported by Shell grant). Worked on graph neural networks and its applications in knowledge graph completion, protein modeling and material discovery.

Goldman Sachs Services Private Limited, Bangalore, India — Jun 2016 – Jul 2018
Senior Analyst, Equities Risk Management
Part of the global team responsible for developing and managing the risk infrastructure of the equities desk. Worked on financial risk modeling, risk engines and risk monitoring.

Refereed Conference Proceedings

[1] Zhiqing Sun*, Shikhar Vashishth*, Soumya Sanyal*, Partha Talukdar, and Yiming Yang. **A Re-evaluation of Knowledge Graph Completion Methods** . *2020 Annual Conference of the Association for Computational Linguistics.* (short) [Paper]

[2] Soumya Sanyal*, Shikhar Vashishth*, Vikram Nitin, and Partha Talukdar. **Composition-based Multi-Relational Graph Convolutional Networks**. *International Conference on Learning Representations (ICLR-2020).* [Paper | Code]

[3] Soumya Sanyal*, Shikhar Vashishth*, Vikram Nitin, Nilesh Agrawal, and Partha Talukdar. **InteractE: Improving Convolution-based Knowledge Graph Embeddings by Increasing Feature Interactions**. *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-2020).* [Paper | Code]

[4] Ekagra Ranjan, Soumya Sanyal, and Partha Talukdar. **ASAP: Adaptive Structure Aware Pooling for Learning Hierarchical Graph Representations**. *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-2020).* [Paper | Code]

Refereed Workshop Papers

[5] Soumya Sanyal, Janakiraman Balachandran, Naganand Yadati, Abhishek Kumar, Padmini Rajagopalan, Suchismita Sanyal, and Partha Talukdar. **MT-CGCNN: Integrating Crystal Graph Convolutional Neural Network with Multitask Learning for Material Property Prediction**. *NeurIPS 2018 Workshop on Machine Learning for Molecules and Materials.* [Paper | Code]

Preprints

[6] Soumya Sanyal, Ivan Anishchenko, Anirudh Dagar, David Baker, and Partha Talukdar. **ProteinGCN: Protein model quality assessment using Graph Convolutional Networks**. *Preprint.* [Paper | Code]

Skills

Languages: Python, C++, C, Java, R, JavaScript, AJAX, NodeJS, MatLab, bash
DL Frameworks: Pytorch, Tensorflow, Keras

Honors and Awards

Graduate Fellowship Award from University of Southern California	**2020**
Travel grant for attending AAAI 2020, New York, USA	**2020**
Shell travel grant for attending NeurIPS 2018, Montreal, Canada	**2018**
Secured 617 rank (among approximately 0.50 million aspirants) in IIT-JEE	**2012**
Awarded KVPY scholarships, granted to approximately top 300 meritorious students	**2012**
Was in top 1% of total aspirants in National Standard Examination in Physics (NSEP)	**2011**
Was in top 1% of total aspirants in National Standard Examination in Astronomy (NSEA)	**2011**
3^{rd} rank among 10,000 students in Inter DPS Science & Mathematics Talent Search Exam	**2009**
Awarded National Talent Search Examination (NTSE) Scholarship by NCERT	**2008**