SUSHEEL SURESH

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RESEARCH INTERESTS

Graph Representation Learning, Graph Data Mining, Machine Learning

EDUCATION

Purdue University August 2018 - Present
Ph.D., Department of Computer Science
Advisor: Prof. Jennifer Neville

P.E.S Institute of Technology August 2013 - May 2017
Bachelor of Engineering, Department of Computer Science

WORK EXPERIENCE

Purdue University Aug 2020 - Present
Graduate Research Assistant *West Lafayette, USA*

· I work in the *Network Learning and Discovery Lab* with Prof. Jennifer Neville and Prof. Pan Li on developing machine learning algorithms in a relational setting which have applications in network science and graph mining.

Microsoft Research April 2022 - Present
Research Contractor (20 hr/week), Productivity + Intelligence Group *Redmond, USA*

· Developing and bench-marking graph neural networks for Office and Microsoft 365 Data.

Microsoft Corporation May 2021 - Aug 2021
Data & Applied Scientist Intern, Insights AI Team *Redmond, USA*

· Developed a novel and principled temporal graph neural network for self-supervised link ranking.

Adobe Systems June 2017 - July 2018
Member of Technical Staff *Bangalore, India*

· Developing and applying machine learning methods for lead management in Adobe marketing cloud platform. Involved in designing and implementing code for Adobe app exchange platform.

Adobe Systems January 2017 - May 2017
Product Intern *Bangalore, India*

· Developed *Voice of Customer* specific datasets from various channels and applying NLP techniques for effective digital marketing.

INRIA / Ecole Polytechnique May 2016 - August 2016
Summer Research Intern *Paris, France*

· Worked under Prof. Catuscia Palamidessi on developing secure geo-location service algorithms using the theory of differential privacy.

Indian Institute of Technology, Bombay May 2015 - Aug 2015
Indian Academy of Sciences Summer Research Fellow *Mumbai, India*

· Worked under Prof. R.K Shyamasundar on developing and implementing a lattice based information flow control model for secure data sharing on the web.

PUBLICATIONS

1. Susheel Suresh, Pan Li, Cong Hao, and Jennifer Neville. Adversarial graph augmentation to improve graph contrastive learning. *Advances in Neural Information Processing Systems*, 34, 2021
2. Susheel Suresh, Vinith Budde, Jennifer Neville, Pan Li, and Jianzhu Ma. Breaking the limit of graph neural networks by improving the assortativity of graphs with local mixing patterns. In *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery & Data Mining*, page 1541–1551, New York, NY, USA, 2021. Association for Computing Machinery
3. Susheel Suresh and Jennifer Neville. A hybrid model for learning embeddings and logical rules simultaneously from knowledge graphs. In *2020 IEEE International Conference on Data Mining (ICDM)*, pages 1280–1285, 2020
4. Susheel Suresh, Guru Rajan TS, and Vipin Gopinath. Voc-dl: revisiting voice of customer using deep learning. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 32, 2018
5. Susheel Suresh, Tarun Sharma, Prashanth T. K., Subramaniam V, Dinkar Sitaram, and Nirupama M. Towards quantifying the amount of uncollected garbage through image analysis. In *ICVGIP*, pages 73:1–73:8. ACM, 2016
6. Suresh Susheel, NV Narendra Kumar, and RK Shyamasundar. Enforcing secure data sharing in web application development frameworks like django through information flow control. In *International Conference on Information Systems Security*, pages 551–561. Springer, 2015

AWARDS

2017	Winner	Technical Bootcamp @ Adobe Systems
2017	High Five Award	Exceptional engineering work @ Adobe Systems
2017	Winner	Data Science Track @ Adobe Tech Summit.
2016	Research Internship Grant	INRIA
2015	Fellowship (320/20k+)	Indian Academy of Sciences (SRF Program)

COURSEWORK

Graduate

ML: Statistical Machine Learning, Deep Learning, Graphs + ML (Network Science), Data Mining
Theory: Real Analysis, Abstract Algebra, Probability Theory, Deep Learning Theory
CS: Algorithms and Analysis, Reasoning about Programs, Computer Networks, Intro to Simulation

Undergraduate

Programming Languages, Operating Systems, Compilers, Databases, Software Engineering, Web Technologies, Cloud Computing

ACADEMIC EXPERIENCE

Graduate Teaching Assistant August 2018 - May 2020
Fall '18,'19 and Spring '19 '20 *Purdue University*

· Work comprised of conducting recitation classes, designing coursework assignments, grading and holding office hours for CS 373 (Data Mining) and CS 182 (Foundations of CS).

Undergraduate Research Assistant January 2016 - December 2016
Center for Cloud Computing and Big Data *P.E.S Institute of Technology*

· Worked on a research project aimed towards "Swachh Bharat" (Clean India Mission), which used computer vision techniques viz. segmentation, 3D reconstruction and volume estimation to quantify the amount of uncollected garbage on the streets.

TALKS

1. "Representation Learning for Ranking Links in Temporal Graphs". Virtual. Microsoft Search, Assistant and Intelligence (MSAI). Graph Learning Seminar. February 2022.
2. "Adversarial Graph Augmentation to Imporve Graph Contrastive Learning". Virtual. NeurIPS '21. December 2021.
3. "Expressive Models for Temporal Link Prediction". Microsoft DTP Intern Expo. August 2021.
4. "Empirical Analysis of Graph Neural Networks under Diverse Local Mixing Patterns". Virtual. KDD '21. August 2021
5. "Graph Neural Networks - Analysis and Learning Principles". Microsoft Deep Dive Seminar. July 2021.
6. "Using Logical Rules to Improve Knowledge Graph Embeddings". Virtual, ICDM '20. November 2020.
7. "Jointly Learning Symbolic Logical Rules and Neural Embeddings in Knowledge Graphs". Purdue University, PurPL Retreat Seminar. August 2020.
8. "Voice of Customer analysis using deep learning". New Orleans USA, AAAI '18. February 2018.

SERVICE

Conference Paper Reviewing	NeurIPS 2022, ICML 2022, TheWebConf (WWW) 2022
Journal Reviewing	IEEE TKDE
Workshop Program Committee	WSDM MLoG 2022