SHIKHAR VASHISHTH

Contact Information Email: shikharvashishth@gmail

Links: Webpage, Google Scholar, Github

EDUCATION

Indian Institute of Science, Bangalore

2016-2020 GPA: 9.1/10

PhD + M.Tech at Dept. of Computer Science and Automation

Thesis: Neural Graph Embedding Methods for NLP [link] Advisors: Partha Talukdar, Chiranjib Bhattacharyya, Manaal Faruqui

Committee: Soumen Chakrabarti, Fabian Suchanek

ACM India Doctoral Dissertation Award & Google PhD Fellowship

Birla Institute of Technology and Science, Pilani; Pilani

2012-2016 M.Sc. (Tech.) Information Systems GPA: 9.18/10

With Distinction, Rank #1 in branch

Thesis: A Hybrid Algorithm for Principal Components Analysis

Advisor: Navneet Goyal

Work EXPERIENCE

Microsoft Research, Bangalore

05/21 - Present

Postdoc Researcher

Improving Extreme Classification using Knowledge Graphs and Medical Entity Linking

Supervisor: Manik Varma

Carnegie Mellon University, Pittsburgh

01/20 - 02/21

Postdoctoral Research Associate, Language Technologies Institute Information Extraction in Medical Documents and Patents

Supervisor: Carolyn Rose

Google Research, New York

05/19 - 09/19

Research Intern, Google Assistant Team

Worked on understanding Attention Mechanism in NLP

Supervisor: Manaal Faruqui

Microsoft IDC, Hyderabad, India

05/15 - 07/15

SDE Intern, Microsoft Office Team

Integrating Google Sign-in in Office android apps for reducing user friction.

CMC Ltd, Mumbai, India

05/14 - 07/14

SDE Intern, Java and Web Development Team

Worked with LEARN team on enhancing interactivity of project's web pages.

PUBLICATIONS

- 1. Shikhar Vashishth, Denis Newman-Griffis, Rishabh Joshi, Ritam Dutt, Carolyn Rose. "Improving broad-coverage medical entity linking with semantic type prediction and large-scale datasets". Journal of Biomedical Informatics (JBI 2021), 121 (2021), p.103880.
- 2. Lovelace, Justin R., Denis R. Newman-Griffis, Shikhar Vashishth, Jill Fain Lehman and Carolyn Penstein Rose. "Robust Knowledge Graph Completion with Stacked Convolutions and a Student Re-Ranking Network." Proceedings of Association of Computational Inguistics (ACL 2021).
- 3. Rishabh Joshi, Vidhya Balachandran, Shikhar Vashishth, Alan Black, Yulia Tsvetkov. "DialoGraph: Incorporating Interpretable Strategy-Graph Networks into

- Negotiation Dialogues", Proceedings of International Conference on Learning Representations (ICLR 2021), Vienna, Australia.
- 4. <u>Shikhar Vashishth</u>, R. Joshi, R. Dutt, D. Newman-Griffis, C. Rose. "MedType: Improving Medical Entity Linking with Semantic Type Prediction", Accepted as poster at American Medical Informatics Association (AMIA 2021).
- S. Khosla, <u>Shikhar Vashishth</u>, J. F. Lehman, C. Rose. "Improving Detection and Categorization of Task-relevant Utterances through Integration of Discourse Structure and Ontological Knowledge", Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)
- Shikhar Vashishth, S. Upadhyay, G. S. Tomar, M. Faruqui. "Attention Interpretability Across NLP Tasks".
- Z. Sun*, <u>Shikhar Vashishth</u>*, S. Sanyal*, P. Talukdar, Y. Yang. "A Re-evaluation of Knowledge Graph Completion Methods" Proceedings of Association of Computational Inguistics (ACL 2020), Seattle, USA.
- 8. <u>Shikhar Vashishth</u>*, S. Sanyal*, V. Nitin, P. Talukdar. "CompGCN: Composition-based Multi-Relational Graph Convolutional Networks", Proceedings of International Conference on Learning Representations (ICLR 2020), Ethiopia.
- Shikhar Vashishth*, S. Sanyal*, V. Nitin, N. Agrawal, P. Talukdar. "InteractE: Improving Convolution based Knowledge Graph Embeddings by Increasing Feature Interactions", Proceedings of 34th Conference on Artificial Intelligence (AAAI 2020), New York, NY, USA.
- Shikhar Vashishth, M. Bhandari, P. Yadav, P. Rai, C. Bhattacharyya, P. Talukdar.
 "Incorporating Syntactic and Semantic Information in Word Embeddings using Graph Convolutional Networks", Proceedings of Association of Computational Inguistics (ACL 2019), Florence, Italy.
- 11. P. Yadav, M. Nimishakavi, N. Yadati, <u>Shikhar Vashishth</u>, A. Rajkumar, P. Talukdar. "Lovasz Convolutional Networks". Proceedings of International Conference on Artificial Intelligence and Statistics (AISTATS 2019), Naha, Okinawa, Japan.
- 12. <u>Shikhar Vashishth</u>*, P. Yadav*, M. Bhandari*, P. Talukdar. "Confidence-based Graph Convolutional Networks for Semi-Supervised Learning". Proceedings of International Conference on Artificial Intelligence and Statistics (AISTATS 2019), Naha, Okinawa, Japan.
- Shikhar Vashishth, R. Joshi, S. P. Suman, C. Bhattacharyya, P. Talukdar. "RE-SIDE: Improving Distantly-Supervised Neural Relation Extraction using Side Information", Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP 2018), Brussels, Belgium.
- 14. <u>Shikhar Vashishth</u>, S. S. Dasgupta, S. N. Ray, P. Talukdar. "**Dating Documents using Graph Convolution Networks**", Proceedings of Association of Computational Inguistics (ACL 2018), Melbourne, Australia.
- 15. Shikhar Vashishth P. Jain, P. Talukdar. "CESI: Canonicalizing Open Knowledge Bases using Embeddings and Side Information". Proceedings of The Web Conference 2018 (WWW 2018), Lyon, France. [Acceptance Rate: 14.8 %]
- 16. Y. Sinha, Shikhar Vashishth, K Hari Babu. "Meticulous Measurement of Control Packets in SDN". Proceedings of ACM Symposium on SDN Research, (SOSR 2017), Santa Clara, CA.
- 17. Shikhar Vashishth, Y. Sinha, K Hari Babu. "Addressing Challenges in Browser Based P2P Content Sharing Framework Using WebRTC". Proceedings of 30th IEEE International Conference on Advanced Information Networking and Applications, (AINA 2016), Switzerland.

SKILLS

Programming Languages: Python, C, C++, Java, R, MatLab, JavaScript Tools and Systems: TensorFlow/Pytorch, Open-GL/MP/CV, MPI, Linux, Git

Position of RESPONSIBILITY Tutorial: Graph-based Deep Learning in NLP (400+ attendees) 2019 Conference on Empirical Methods in Natural Language Processing [Webpage]

Reviewer for ACL, EMNLP, ICLR, CoNLL, EACL, AACL AAAI, COLING, RepL4NLP, Neurocomputing.

2019 - Present

Teaching Assistant for Algorithms and Programming

Fall 2018

Indian Institute of Science, Bangalore.

Teaching Assistant for Data mining

Spring 2019

Birla Institute of Science and Technology, Pilani.

Technology head at Nirmaan Organization

Fall 2014

Supervised team in online and on campus publicity of Nirmaan.

Honors and AWARDS

- Recipient of ACM India Doctoral Dissertation Award 2021.
- Recipient of Google India PhD Fellowship 2018.
- Microsoft Research grant for attending ACL 2018, Melbourne.
- Google Travel grant for attending WWW 2018, Lyon, France.
- BITSAA Travel grant for attending AINA 2016, Switzerland.
- Secured 49th rank (top 0.04%) in GATE 2016 CSIT.
- Qualified for ACM ICPC 2014 Kharagpur regionals.
- Secured 8,848 rank (top 1.8%) in IIT-JEE
- Secured 4,334 rank (top 0.74%) in AIEEE