

Vivek Gupta

Machine Learning & Natural Language Processing

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| CONTACT INFORMATION | The Preserve Apartment 543 South 900 East, Apt. C6, Salt Lake City, UT 84102 United States of America | vgupta123.github.io keviv9@gmail.com +1-801-558-7272 Google Scholar |
| RESEARCH INTERESTS | Natural Language Inference, Representation Learning, Extreme Multi-Label Learning, Ethics in Artificial Intelligence | |
| CURRENT POSITION | School of Computing, University of Utah <i>Graduate Research Assistant</i> | Aug 2018 - Present Advisors: Prof. Vivek Srikumar |
| EDUCATION | School of Computing, University of Utah PhD, Computer Science, School of Computing Advisors: Prof. Vivek Srikumar (CGPA: 3.8/4) | Aug 2018 - Present |
| | Indian Institute of Technology, Kanpur M. Tech, Computer Science and Engineering Advisor: Prof. Harish Karnick (CGPA: 9.3/10) | July 2015 - May 2016 |
| | Indian Institute of Technology, Kanpur B. Tech, Computer Science and Engineering (CGPA: 7.5/10) | July 2011 - July 2015 |
| EMPLOYMENT | Microsoft Research Lab, India <i>Research Fellow, Machine Learning and Natural Language Application</i> Dr. Praneeth Netrapalli & Dr. Prateek Jain | Oct 2016 - Aug 2018 Dr. Nagarajan Natarajan, |
| SCHOLASTIC ACHIEVEMENTS | Selected among the top 7 finalist in Ericson's Innovation Awards, India in 2016 Secured All India Rank 183 in IIT-JEE 2011 amongst more than 500,000 candidates Qualified for Kishore Vaigyanik Protsahan Yojana (KVPY) scholarship, 2011 Selected among top 1% of students, Indian National Physics Olympiads, 2011 Selected among top 1% of students, Indian National Chemistry Olympiads, 2011 | |
| PUBLICATIONS | Gupta, V. , Mehta, M., Nokhiz, P., Srikumar, V. <i>InfoTabS: Inference on Tables as Semi-structured Data</i> , ACL 2020 [PrePrint] Gupta, V. , Nokhiz, P., Dutta, C., Venkatasubramanian, S., <i>Equalizing Recourse Across Group</i> , Under preperation for FAT* 2020 [PrePrint] Gupta, V. , Saw A., Nokhiz, P., Gupta, H., Talukdar, P., <i>Improving Document Classification using Multi-Sense Embeddings</i> , ECAI 2020 (Oral) [PrePrint] [Blog] Gupta, V. , Kumar, A., Nokhiz, P., Netrapalli, P., Rai, P., Talulkdar, <i>P-SIF: Document Embeddings using Partition Averaging</i> , AAAI 2020 (Oral) [Paper] [Appendix] [PPT] [Poster] [Blog] Li, T., Gupta, V. , Mehta, M., Srikumar, V., <i>A logic-Driven Framework for Consistency of Neural Models</i> , EMNLP-IJCNLP 2019 & StarAI 2020 [Paper] [Poster] Gupta, V. , Wadbude, R., Natarajan, N., Karnick, H., Jain, P., Rai, P., <i>Distributional Semantics meet Multi-Label Learning</i> , AAAI 2019 (Oral) [Paper] [Slides] [Poster] Gupta, V. , Saw A., Gupta, H., Nokhiz, P., Talukdar, P., <i>Word Polysemy Aware Document Vector Estimation</i> , NAACL-SRW 2019 (non-archival) [PrePrint] Raunak, V., Gupta, V. , Metze, F., <i>Effective Dimensionality Reduction for Word Embeddings</i> , Repl4NLP 2019 [Paper] [Poster] | |

Raunak, V., Kumar, V., **Gupta, V.**, Metze, F., *On Dimensional Linguistic Properties of the Word Embedding Space*, [ACL-SRW 2019](#) (non-archival) [\[PrePrint\]](#)

Dohare, S., **Gupta, V.**, Karnick, H., *Unsupervised Semantic Abstractive Summarization*, [ACL-SRW 2018](#) [\[Paper\]](#) [\[Poster\]](#)

Mekala, D., **Gupta, V.**, Paranjape, B., Karnick, H. *Sparse Composite Document Vectors using soft clustering over distributional representations*, [EMNLP 2017](#) (Oral) [\[Paper\]](#) [\[Slides\]](#)

Gupta, V., Karnick, H., Bansal, A., Jhala, P. *Product Classification in E-Commerce using Distributional Semantics*, [COLING 2016](#) (Master Thesis Work) [\[Paper\]](#) [\[Poster\]](#)

Wadbude, R., **Gupta, V.**, Mekala, D., Karnick, H., *User Bias Removal in Review Score Prediction*, [CODS-COMAD 2018](#) & [DAB 2017](#) (Oral) [\[Paper\]](#) [\[Poster\]](#)

Gupta, V., Mittal, S., Bhaumik, S., Roy, R. *Assisting Humans to Achieve Optimal Sleep by Changing Ambient Temperature*, [BIBM 2016](#), [BHI 2016](#) & [HI-DS 2016](#) (Oral) [\[Paper\]](#) [\[Slides\]](#)

Mekala, Dheeraj., **Gupta, V.**, Kar, P., Karnick, H., *Bayes-optimal Hierarchical Classification over Asymmetric Tree-Distance Loss*, Tech Report [\[PrePrint\]](#)

Mahajan, D., **Gupta, V.**, Keerthi, S., Sundararajan, S., *Efficient Estimation of Generalization Error and Bias-Variance Components of Ensembles*, Tech Report [\[PrePrint\]](#)

MASTER THESIS

Product Categorization in E-Commerce using Distributional Semantics

Prof. Harish Karnick (IIT Kanpur) & Pradhuman Jhala (Flipkart.com) [\[Thesis\]](#) [\[Slides\]](#)

- Proposed a novel distributional semantics representation for text documents.
- Proposed a two-level ensemble approach utilizing (with respect to the taxonomy tree) a path-wise, node-wise and depth-wise classifiers for product classification.

RESEARCH INTERNSHIPS

IBM Research, Thomas J. Watson Research Center May 2019 - Aug 2019
Contrastive Explanations for Natural Language Task *Dr. Kush R Varshney (Research Manager)*

Microsoft Research India, Bangalore May 2016 - Jul 2016
Estimation of Generalization Error for Ensembles *Dr. Sundararajan Sellamanickam (Principal Applied Scientist)*

Flipkart Internet Pvt. Ltd., Bangalore May 2015 - July 2015
Web Scale Product Classification *Pradhuman Jhala (Principal Architect)*

Samsung R&D Institute, Bangalore May 2014 - July 2014
Mobile and Healthcare Solution Y2014 *Sandip Bhaumik (Group Manager) & Raj Roy (Manager)*

PROFESSIONAL SERVICES

Program Committee: AACL-IJCNLP 2020, Coling 2020, ICML 2020, ACL 2020, AAAI 2020, NAACL 2019, ACL-SRW 20, 19, 18, EMNLP 2017.

Coordinator: Initiated and managed [Special Interest Group in Machine Learning](#) at CSE, IIT Kanpur. Organized regular meetups for discussions and talks on topics in Machine Learning and related fields. Recently assigned as the Data Science Club Coordinator at the University of Utah.

Teaching Assistant: for MLT 2016 - Machine Learning Tool and Technique: Mentored a group of 30 M-Tech students part of a course on Machine Learning. Set up a labeling software for project work, resulting in a new dataset.

Student Secretary: in Promotion of Work Experience and Research [PoWER](#) & Alumni Contact Program ([ACA](#)) under Office of Dean of Research and Development, IIT Kanpur.

Student Volunteer: for mentoring and teaching underprivileged students of primary classes from nearby village (Nankari) at [Prayas, IIT Kanpur](#).

MISCELLANEOUS

[\[Seminars Talks\]](#), [\[Research Grants\]](#), [\[Mentored Students\]](#)