

# Vivek Gupta

Machine Learning & Natural Language Processing

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

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, IEEE BIGMM 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

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