

## Shashank Srivastava

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Machine Learning Department  
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### Interests

Machine learning from language interactions, Learning with limited data, NLP

### Education

*PhD*, Machine Learning Department, Carnegie Mellon University June 2018 (expected)  
GPA: 4.11/4.00  
Advisor: Tom Mitchell

*MS*, Language Technologies Institute, Carnegie Mellon University July 2014  
Advisor: Eduard Hovy

*BTech-MTech Dual degree*, Computer Science and Engineering July 2011  
Indian Institute of Technology Kanpur, India

### Research and Professional Experience

*Graduate Research Assistant* August 2012-present  
School of Computer Science, Carnegie Mellon University

*Research Internship* May 2016- July 2016  
Microsoft Research, Redmond. Mentor: Nebojsa Jojic

*Research Internship* May 2014- July 2014  
Microsoft Research, Bangalore. Mentor: Manik Varma

*High Frequency Trading* July 2010 - June 2012  
Tower Research Capital LLC ([www.tower-research.com](http://www.tower-research.com))

*Research Internship* May 2009- July 2009  
Max Planck Institute Tubingen. Mentors: Bernhard Scholkopf, Jan Peters

### Publications

*Work in progress:*

- Zero-shot Learning from Natural Language Quantification. (In review)
- ‘Where have I heard this story before? : Plot Kernels over Character Graphs’. (In review)
- An Agent for Learning and Executing Natural Language Commands. (In review)
- ‘Sequential Counting Grids for Extracting Temporal Structures in texts’. (In preparation)

*Conferences:*

1. S Srivastava, I Labutov, T Mitchell. ‘Joint Semantic Parsing and Concept Learning from Natural Language Explanations’. Conference on Empirical Methods in Natural Language Processing (EMNLP) 2017
2. S Srivastava, A Azaria, T Mitchell. ‘Parsing Natural Language Conversations using Contextual Cues’. International Joint Conference on Artificial Intelligence (IJCAI) 2017
3. S Srivastava, S Chaturvedi, T Mitchell. ‘Inferring interpersonal relationships in narrative text’. AAAI Conference on Artificial Intelligence (AAAI) 2016.<sup>1</sup>
4. S Chaturvedi, S Srivastava, H Daumé and C Dyer. ‘Modeling Evolving Relationships Between Characters in Literary Novels’. AAAI Conference on Artificial Intelligence (AAAI) 2016.

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<sup>1</sup>Media coverage in the New Scientist (Dec 2015))

5. B Yang, N Nakashole, B Kisiel, EA Platanios, A Saparov, S Srivastava, D Wijaya, T Mitchell, ‘CMUML Micro-Reader System for KBP 2016 Cold Start Slot Filling, Event Nugget Detection, and Event Argument Linking’, Text Analysis Conference (TAC) 2016
6. B Kisiel, B McDowell, M Gardner, N Nakashole, EA Platanios, A Saparov, S Srivastava, D Wijaya, T Mitchell, ‘CMUML system for KBP 2015 Cold Start Slot Filling’, Text Analysis Conference (TAC) 2015
7. S Srivastava, E Hovy. ‘Vector Space Semantics with Frequency-driven motifs’. Association for Computational Linguistics (ACL) 2014.
8. M Sachan, A Dubey, S Srivastava, E P Xing and E Hovy. ‘Spatial Compactness meets Topical Consistency: Jointly modeling Links and Content for Community Detection’. International Conference on Web Search and Data Mining (WSDM) 2014
9. S Srivastava, D Hovy, E Hovy. ‘A Walk-based Semantically Enriched Tree Kernel Over Distributed Word Representations’. Conference on Empirical Methods in Natural Language Processing (EMNLP) 2013.
10. K Goyal\*, SK Jauhar\*, H Li\*, M Sachan\*, S Srivastava\* and E Hovy. ‘A Structured Distributional Semantic Model for Event Coreference’. Association for Computational Linguistics (ACL) 2013 (*\*Equally contributing*)

*Workshop papers, posters and Technical Reports:*

11. S Srivastava, I Labutov, T Mitchell. ‘Learning Classifiers from Declarative Language’. Workshop on Learning from Limited Data, Advances in Neural Information Processing Systems (NIPS) 2017
12. D Hovy, S Srivastava, S K Jauhar, M Sachan, K Goyal, H Li and E Hovy. ‘Identifying Metaphorical Word Use with Tree Kernels’. Proceedings of Meta4NLP Workshop, North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT) 2013
13. K Goyal\*, S K Jauhar\*, H Li\*, M Sachan\*, S Srivastava\* and E Hovy. ‘A Structured distributional semantic model: Integrating structure with semantics’. Workshop on Continuous Vector Space Models and their Compositionality, Association for Computational Linguistics (ACL) 2013 (*\*Equally contributing*)
14. M Sachan and S Srivastava. ‘Collective Matrix Factorization for Co-clustering’. World Wide Web Consortium (WWW companion) 2013 (poster).
15. S Chaturvedi, H Daumé , T Moon, S Srivastava, ‘A Topical Graph Kernel for Link Prediction’, Workshop on Mining and Learning with Graphs, International Conference on Machine Learning (ICML) 2012
16. S Srivastava, ‘Evolution of Compositional Languages in Multiple Agent Social Communities’, MTech Thesis, IIT Kanpur, 2011
17. S Srivastava, M Hirsch, J Peters, B Scholkopf, ‘A Reinforcement learning based Autoguided for Astrophotography’, MPI Technical Report

## Talks

1. ‘Learning Classifiers from Language’, Invited Talk at Computational Linguistics and Lunch Symposium, CIS, University of Pennsylvania, Nov 2017
2. ‘Jointly Learning Concepts and Language’, Invited Talk at Department of Computer Science and Engineering, IIT Kanpur, June 2017
3. ‘Learning to Interpret Language from Context’, Talk in Machine Learning Lunch Seminar, CMU, May 2017
4. ‘Learning from Natural Interactions’, CogComp Group, UIUC, Nov 2016
5. ‘A Walk-based Semantically Enriched Tree Kernel Over Distributed Word Representations’, LTI Student Research Symposium, August 2013

6. ‘A Practical Introduction to Machine Learning’, Invited talk and workshop at Geetanjali Institute of Technology and Science, Udaipur, 2010
7. ‘Algorithms for Graph clustering’, Special Interest Group in Machine Learning seminar, IIT Kanpur, Sep 2009
8. Conference Presentations at EMNLP 2017, AAAI 2016, EMNLP 2013 and APBC 2010

### Awards and Honors

- Supported by Yahoo CMU InMind Fellowship for 2016-17
- Selected to attend Heidelberg Laureate Forum 2016
- Invited to Facebook Machine Learning Seminar, 2017
- Highest GPA in the class of 2012 at LTI, CMU
- Thrice awarded ‘Academic Excellence award’ by the Indian Institute of Technology Kanpur for distinctive academic performance (top 7% of class), 2005-06, 2007-08 and 2009-10
- Two Gold medals for highest score in India in the International Assessment for Schools by University of New South Wales, Australia (in both Maths and Science)
- Travel award for attending ‘Microsoft Winter School on Machine Learning and Computer Vision’, IISc Bangalore, 2010
- Awarded National Talent Search (NTS) Scholarship by National Council of Educational Research and Training
- Top 0.1% in the Combined Admission Test of the IIMs, 2011 (200,000 appearing students)
- Top 0.1% in the Joint Entrance Exam of the IITs, 2005 (200,000 appearing students)

### Teaching Experience

- *Teaching Assistant*
  1. Convex Optimization, CMU, Ryan Tibshirani Fall, 2015
  2. Statistical Machine Learning, CMU, Larry Wasserman & Ryan Tibshirani Spring, 2015
  3. Machine Learning, IIT Kanpur, Harish Karnick Fall, 2010
  4. Data Structures and Algorithms, IIT Kanpur, SK Mehta Spring, 2009
- *Introductory workshop on Machine Learning*  
Conducted day-long workshop for 40 senior year computer science students at Geetanjali Institute of Technology and Science, Udaipur in Feb 2010

### Service

- PhD Admissions Committee, Machine Learning Department, CMU (2016-17 and 2017-18)
- Program committee/Reviewer for ICML 2018, ACL 2018, NASSLLI 2018, AAAI 2018, NIPS 2017, ICML 2017, ACL 2017, AAAI 2017, ConLL 2017, NIPS 2016, ICML 2016, AAAI 2016, ICML 2015, COPTS 2015, MASC 2013
- Coordinator and Instructor, Summer school for Computer Literacy for economically disadvantaged young adults, in collaboration with ‘Shiksha Sopan’(regional charity organization) May-Jul 2008
- Senior Link Student, Counselling Service, IIT Kanpur, 2006-08