

Partha Pratim Talukdar

CONTACT INFORMATION	Assistant Professor Department of Computational and Data Sciences (CDS) & Department of Computer Science and Automation (CSA) Indian Institute of Science, Bangalore, India 560012	office: CDS 322 phone: +91-80-2360 0492 e-mail: ppt@cds.iisc.ac.in web: www.talukdar.net
RESEARCH INTERESTS	I am interested in Machine Learning, Natural Language Processing, Data Integration, and Cognitive Science. My recent research has focused on learning and inference over graphs, automatic knowledge harvesting from web-scale datasets, temporal information processing, and neuro-semantic.	
EDUCATION	University of Pennsylvania , Philadelphia, PA PhD, Computer and Information Science Advisors: Fernando Pereira, Zack Ives, Mark Liberman Committee: William Cohen, Aravind Joshi, Ben Taskar, Lyle Ungar	2010
	University of Pennsylvania , Philadelphia, PA Master of Science and Engineering (MSE), Computer and Information Science	2005
	Birla Institute of Technology & Science (BITS) , Pilani, India B.E. (Hons.) Computer Science (with Distinction)	2003
EMPLOYMENT	Indian Institute of Science , Bangalore, India Assistant Professor, Department of Computational and Data Sciences (CDS) and Department of Computer Science and Automation (CSA)	Jul 2014 – Present Feb 2015 – Present
	Carnegie Mellon University , Pittsburgh, PA Postdoctoral Fellow, Machine Learning Department (Supervisor: Tom Mitchell) Worked on the Never Ending Language Learning (NELL) project.	May 2011 – May 2014
	Microsoft Research Search Labs , Mountain View, CA Visiting Research Scientist Worked on machine learning and structured data in Rakesh Agrawal's group.	Mar 2010 – Mar 2011
	Google Research , Mountain View, CA Research Intern Worked with Marius Paşca and Fernando Pereira on minimally supervised information extraction at the web-scale.	May 2008 – Dec 2008
	Google Research , Mountain View, CA Research Intern Worked with Thorsten Brants and other members of the Machine Translation group.	Jun 2006 – Sep 2006
	Linguistic Data Consortium (LDC) , Philadelphia, PA Research Fellow Worked on the Less Commonly Taught Languages (LCTL) project, developing statistical tools for resource poor languages.	Jan 2006 - May 2006
	Google Research , Mountain View, CA Research Intern Worked with Thorsten Brants on named entity extraction.	Jun 2005 - Sep 2005
	Hewlett-Packard (HP) Labs , India Research Engineer Worked on language processing and learning for building text-to-speech systems.	Jul 2003 - Jun 2004

Book

Amarnag Subramanya, Partha Pratim Talukdar. *Graph-based Semi-Supervised Learning*. Morgan & Claypool Publishers, 2014.

Thesis

Partha Pratim Talukdar. *Graph-based Weakly-Supervised Methods for Information Extraction & Integration*. PhD Thesis, University of Pennsylvania, Philadelphia, PA, 2010.

Refereed Journal Papers

1. Evangelos Papalexakis, Tom Mitchell, Nicholas Sidiropoulos, Christos Faloutsos, Partha Talukdar, Brian Murphy. **Turbo-SMT: Parallel Coupled sparse Matrix-Tensor Factorizations and applications**. *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 2016.
2. Leila Wehbe, Brian Murphy, Partha Talukdar, Alona Fyshe, Aaditya Ramdas, Tom Mitchell. **Simultaneously Uncovering the Patterns of Brain Regions Involved in Different Story Reading Subprocesses**. *PLoS ONE* 9(11): e112575. doi:10.1371/journal.pone.0112575
3. Zhepeng Yan, Nan Zheng, Zachary Ives, Partha Pratim Talukdar, Cong Yu. **Active Learning in Keyword Search-based Data Integration**. *The VLDB Journal Special Issue on Best Papers of VLDB 2013*
4. Zhepeng Yan, Nan Zheng, Zack Ives, Partha Talukdar, Cong Yu. **Actively Soliciting Feedback for Query Answers in Keyword Search-Based Data Integration**. *Proceedings of the VLDB Endowment (PVLDB)*, Volume 6, Number 3, January 2013. [Presented at VLDB 2013. [Invited to the special issue of the VLDB Journal with the "Best Papers of VLDB 2013"](#).]
5. Fabian M. Suchanek, James Fan, Raphael Hoffmann, Sebastian Riedel, Partha Talukdar. **Advances in Automated Knowledge Base Construction**. *ACM SIGMOD Records Journal*
6. Todd J. Green, Grigoris Karvounarakis, Nicholas E. Taylor, Val Tannen, Partha Pratim Talukdar, Marie Jacob, Fernando Pereira. **The Orchestra Collaborative Data Sharing System**. *ACM SIGMOD Records Journal*, September 2008.
7. Partha Pratim Talukdar, Marie Jacob, Mohammad Salman Mehmood, Koby Crammer, Zack Ives, Fernando Pereira, Sudipto Guha. **Learning to Create Data-Integrating Queries**. *Proceedings of the VLDB Endowment (PVLDB)*, Volume 1, Number 1, August 2008.

Refereed Conference Papers [acceptance rates, if available, are marked in brackets]

1. Xiao Fu, Kejun Huang, Otilia Stretcu, Hyun Ah Song, Evangelos Papalexakis, Partha Talukdar, Tom Mitchell, Nicholas Sidiropoulos, Christos Faloutsos, Barnabas Póczos. **BRAINZOOM: High Resolution Reconstruction from Multi-modal Brain Signals**. *SIAM International Conference on Data Mining (SDM 2017)*, Houston, USA
2. Robert Pienta, Minsuk (Brian) Kahng, Zhiyuan Lin, Jilles Vreeken, Partha Talukdar, James Abello, Ganesh Parameswaran, Duen Horng (Polo) Chau. **Facets: Adaptive Local Exploration of Large Graphs**. *SIAM International Conference on Data Mining (SDM 2017)*, Houston, USA
3. Madhav Nimishakavi, Uday Singh Saini, Partha Talukdar. **Relation Schema Induction using Tensor Factorization with Side Information**. *International Conference on Empirical Methods in NLP (EMNLP 2016)*, Austin, USA
4. Prakhar Ojha, Partha Talukdar. **Quality Estimation of Workers in Collaborative Tasks from Group-Level Feedback**. *AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2016)*, Austin, USA.
5. Danish, Yogesh Dahiya and Partha Talukdar. **Discovering Response-Eliciting Factors in Social Question-Answering: A Reddit Inspired Study**. *10th International AAAI Conference on Web and Social Media (ICWSM-16)*, Cologne, Germany. (17%)
6. Mehdi Samadi, Partha Talukdar, Manuela Veloso, Manuel Blum. **ClaimEval: Integrated and Flexible Framework for Claim Evaluation Using Credibility of Sources**. *30th AAAI Conference Conference on Artificial Intelligence (AAAI-16)*, Phoenix, USA.

7. Manjunath Hegde, Partha Talukdar. **An Entity-centric Approach for Overcoming Knowledge Graph Sparsity.** *International Conference on Empirical Methods in NLP (EMNLP 2015)*, Portugal (Short Paper)
8. Bhushan Kotnis, Pradeep Bansal, Partha Talukdar. **Knowledge Base Inference using Bridging Entities.** *International Conference on Empirical Methods in NLP (EMNLP 2015)*, Portugal (Short Paper)
9. Matt Gardner, Kejun Huang, Evangelos Papalexakis, Xiao Fu, Partha Talukdar, Christos Faloutsos, Nicholas Sidiropoulos, Tom Mitchell. **Translation Invariant Word Embeddings.** *International Conference on Empirical Methods in NLP (EMNLP 2015)*, Portugal (Short Paper)
10. Mehdi Samadi, Partha Talukdar, Manuela Veloso, Tom Mitchell. **AskWorld: Budget-Sensitive Query Evaluation for Knowledge-on-Demand.** *International Joint Conference on Artificial Intelligence (IJCAI 2015)*, Buenos Aires, Argentina.
11. Tom Mitchell, William Cohen, Estevam Hruschka, Partha Talukdar, Justin Betteridge, Andrew Carlson, Bhavana Dalvi, Matt Gardner, Bryan Kisiel, Jayant Krishnamurthy, Ni Lao, Kathryn Mazaitis, Tahir Mohammad, Ndapa Nakashole, Emmanouil Antonios Platanios, Alan Ritter, Mehdi Samadi, Burr Settles, Richard Wang, Derry Wijaya, Abhinav Gupta, Xinlei Chen, Abulhair Saparov, Malcolm Greaves and Joel Welling. **Never-Ending Learning.** *Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI 2015)*, Austin, USA. (26.7%)
12. Bhavana Dalvi, Einat Minkov, Partha Talukdar and William Cohen. **Automatic Gloss Finding for a Knowledge Base using Ontological Constraints.** *International Conference on Web Search and Data Mining (WSDM 2015)*, Shanghai, China. (16.4%)
13. Alona Fyshe, Leila Wehbe, Partha P. Talukdar, Brian Murphy and Tom M. Mitchell. **A Compositional and Interpretable Semantic Space.** *Conference of the North American Chapter of the ACL (NAACL 2015)*, Denver, USA. (26%)
14. K. Huang, N. Sidiropoulos, C. Faloutsos, E. Papalexakis, P. Talukdar, T. Mitchell. **Principled Neuro-Functional Connectivity Discovery.** *SIAM International Conference on Data Mining (SDM 2015)*, Vancouver, Canada.
15. Partha Pratim Talukdar, William Cohen. **Scaling Graph-based Semi Supervised Learning to Large Number of Labels Using Count-Min Sketch.** *17th International Conference on Artificial Intelligence and Statistics (AISTATS 2014)*, Reykjavik, Iceland. (35.8%)
16. Matt Gardner, Partha Talukdar, Jayant Krishnamurthy, and Tom Mitchell. **Incorporating Vector Space Similarity in Random Walk Inference over Knowledge Bases.** *International Conference on Empirical Methods in NLP (EMNLP 2014)*, Doha, Qatar. (26%)
17. Alona Fyshe, Partha Talukdar, Brian Murphy, Tom Mitchell. **Interpretable Semantic Vectors from a Joint Model of Brain- and Text-based Meaning.** *52nd Annual Meeting of the Association for Computational Linguistics (ACL 2014)*, Baltimore, USA. (26.2%)
18. Evangelos Papalexakis, Alona Fyshe, Nicholas Sidiropoulos, Partha Talukdar, Tom Mitchell, Christos Faloutsos. **Good-Enough Brain Model: Challenges, Algorithms and Discoveries in Multi-Subject Experiments.** *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2014)*, New York City, USA. (14.6%)
19. Evangelos Papalexakis, Tom Mitchell, Nicholas Sidiropoulos, Christos Faloutsos, Partha Talukdar, Brian Murphy. **Turbo-SMT: Accelerating Coupled Sparse Matrix-Tensor Factorizations by 200x.** *SIAM International Conference on Data Mining (SDM 2014)*, Philadelphia, USA. [Invited to the Statistical Analysis and Data Mining (SAM) Special Issue of "Best of SDM 2014".]
20. Alex Beutel, Abhimanu Kumar, Evangelos Papalexakis, Partha Talukdar, Christos Faloutsos, Eric Xing. **FlexiFaCT: Scalable Flexible Factorization of Coupled Tensors on Hadoop.** *SIAM International Conference on Data Mining (SDM 2014)*, Philadelphia, USA. (15.4%)
21. Matt Gardner, Partha Talukdar, Bryan Kisiel, Tom Mitchell. **Improving Learning and Inference in a Large Knowledge-base using Latent Syntactic Cues.** *International Conference on Empirical Methods in NLP (EMNLP 2013)*, Seattle, USA. [Short Paper]

22. Derry Wijaya, Partha Talukdar, Tom Mitchell. **PIDGIN: Ontology Alignment using Web Text as Interlingua.** *International Conference on Information and Knowledge Management (CIKM 2013)*, San Francisco, USA. (16%)
23. Alona Fyshe, Brian Murphy, Partha Talukdar and Tom Mitchell. **Documents and Dependencies: an Exploration of Vector Space Models for Semantic Composition.** *International Conference on Computational Natural Language Learning (CoNLL 2013)*, Sofia, Bulgaria. (25%)
24. Partha Pratim Talukdar, Derry Wijaya, Tom Mitchell. **Acquiring Temporal Constraints between Relations.** *International Conference on Information and Knowledge Management (CIKM 2012)*, Hawaii, USA. (13.4%)
25. Partha Pratim Talukdar, Derry Wijaya, Tom Mitchell. **Coupled Temporal Scoping of Relational Facts.** *International Conference on Web Search and Data Mining (WSDM 2012)*, Seattle, USA. (20.7%)
26. Brian Murphy, Partha Talukdar, Tom Mitchell. **Learning Effective and Interpretable Semantic Models using Non-Negative Sparse Embedding.** *International Conference on Computational Linguistics (COLING 2012)*, Mumbai, India. (27%)
27. Brian Murphy, Partha Pratim Talukdar, Tom Mitchell. **Selecting Corpus-Semantic Models for Neurolinguistic Decoding.** *Joint Conference on Lexical and Computational Semantics (StarSem) 2012*, Montreal, Canada.
28. Paramveer Dhillon, Partha Pratim Talukdar, Koby Crammer. **Metric Learning for Graph-based Domain Adaptation.** *International Conference on Computational Linguistics (COLING 2012)* [Short Paper], Mumbai, India.
29. Rakesh Agrawal, Ariel Fuxman, Anitha Kannan, John Shafer, Partha Pratim Talukdar. **Associating Structured Records To Text Documents.** *International World Wide Web Conference (WWW 2012)* [Poster], Lyon, France.
30. Anitha Kannan, Partha Pratim Talukdar, Nikhil Rasiwasia, Qifa Ke. **Improving Product Classification Using Images.** *International Conference on Data Mining (ICDM 2011)*, Vancouver, Canada. (12.5%)
31. Anton Bakalov, Ariel Fuxman, Partha Pratim Talukdar, Soumen Chakrabarti. **SCAD: Collective Discovery of Attribute Values.** *20th International World Wide Web Conference (WWW 2011)*, Hyderabad, India. (12.5%)
32. Partha Pratim Talukdar, Fernando Pereira. **Experiments in Graph-based Semi-Supervised Learning Methods for Class-Instance Acquisition.** *The 48th Annual Meeting of the Association for Computational Linguistics (ACL 2010)*, Uppsala, Sweden. (25%)
33. Paramveer Dhillon, Partha Pratim Talukdar, Koby Crammer. **Learning Better Data Representation using Inference-Driven Metric Learning.** *The 48th Annual Meeting of the Association for Computational Linguistics (ACL 2010)* [Short Paper], Uppsala, Sweden. (22%)
34. Partha Pratim Talukdar, Zack Ives, Fernando Pereira. **Automatically Incorporating New Sources in Keyword Search-Based Data Integration.** *ACM SIGMOD 2010*, Indianapolis, USA. (20.8%)
35. Partha Pratim Talukdar, Koby Crammer. **New Regularized Algorithms for Transductive Learning.** *European Conference on Machine Learning (ECML-PKDD) 2009*, Bled, Slovenia. (24.9%)
36. Z. Ives, C. Knoblock, S. Minton, M. Jacob, P. Talukdar, R. Tuchinda, J. L. Ambite, M. Muslea, C. Gazen. **Interactive Data Integration through Smart Copy and Paste.** *Conference on Innovative Database Research (CIDR) 2009*, Asilomar, USA. (27%)
37. Ted Sandler, John Blitzer, Partha Pratim Talukdar, Lyle H. Ungar. **Regularized Learning with Networks of Features.** *Advances in Neural Information Processing Systems (NIPS) 2009*, Vancouver, Canada. (23.8%)
38. Partha Pratim Talukdar, Joseph Reisinger, Marius Pasca, Deepak Ravichandran, Rahul Bhagat, Fernando Pereira. **Weakly Supervised Acquisition of Labeled Class Instances using Graph Random Walks.** *Empirical Methods in Natural Language Processing (EMNLP) 2008*, Honolulu, USA. (30%)

39. Partha Pratim Talukdar, Marie Jacob, Mohammad Salman Mehmood, Koby Crammer, Zack Ives, Fernando Pereira, Sudipto Guha. **Learning to Create Data-Integrating Queries.** *34th International Conference on Very Large Databases (VLDB 2008)*, Auckland, New Zealand. (16.5%)
40. Koby Crammer, Partha Pratim Talukdar, Fernando Pereira. **A Rate-Distortion One-Class Model and its Applications to Clustering.** *International Conference on Machine Learning (ICML) 2008*, Helsinki, Finland. (26.5%)
41. Koby Crammer, Mark Dredze, Kuzman Ganchev, Partha Pratim Talukdar and Steve Carroll. **Automatic Code Assignment to Medical Text.** *BioNLP 2007*, Prague. (29%)
42. Partha Pratim Talukdar, Thorsten Brants, Mark Liberman and Fernando Pereira. **A Context Pattern Induction Method for Named Entity Extraction.** *Tenth Conference on Computational Natural Language Learning (CoNLL-X)*, New York City, 2006. (35%)
43. Deepa S.R., A.G. Ramakrishnan, Kalika Bali, Partha Pratim Talukdar, **Automatic Generation of Compound Word Lexicon for Hindi Speech Synthesis**, *LREC 2004*, Portugal.
44. N. Sridhar Krishna, Partha Pratim Talukdar, Kalika Bali, A.G. Ramakrishnan, **Duration Modeling for Hindi Text-to-Speech Synthesis**, *8th International Conference on Spoken Language Language Processing (ICSLP 2004)*, Jeju Island, Korea.
45. Satinder Singh, Partha Talukdar, Sridhar Krishna, Sandeep Manocha, Kalika Bali, Sitaram R.N.V., **Optimal Creation of Speech Databases for Indian Language Speech Technology**, *O-COCOSDA 2004*, New Delhi, India.
46. Sriram S., Partha Pratim Talukdar, Sameer Badaskar, Kalika Bali, A.G. Ramakrishnan, **Phonetic Distance Based Cross-lingual Search**, *International Conference on Natural Language Processing 2004*, Hyderabad India.
47. K. Panchapagesan, Partha Pratim Talukdar, N. Sridhar Krishna, Kalika Bali, A.G. Ramakrishnan, **Hindi Text Normalization**, *Fifth International Conference on Knowledge Based Computer Systems (KBCS 2004)*, Hyderabad India.

Refereed Workshop & Symposium Papers

1. Matt Gardner, Partha Talukdar and Tom Mitchell. **Combining Vector Space Embeddings with Symbolic Logical Inference over Open-Domain Text.** *AAAI Spring Symposium on Knowledge Representation and Reasoning*, Stanford, USA
2. Leila Wehbe, Partha Talukdar, Brian Murphy, Alona Fyshe, Gustavo Sudre, and Tom Mitchell. **Tracking Story Reading in the Brain.** *NIPS 2012 Workshop on Machine Learning and Interpretation in NeuroImaging (MLINI 2012)*, Lake Tahoe, USA.
3. Partha Pratim Talukdar, William Cohen. **Crowdsourced Comprehension: Predicting Prerequisite Structure in Wikipedia.** *HLT-NAACL 2012 Workshop on Innovative Use of NLP for Building Educational Applications (BEA7)*, Montreal, Canada.
4. Mark Dredze, Partha Pratim Talukdar, Koby Crammer. **Sequence Learning from Data with Multiple Labels.** *European Conference on Machine Learning (ECML-PKDD) 2009 workshop on Learning from Multi-Label Data*, Bled, Slovenia.
5. Partha Pratim Talukdar, John Blitzer, Ted Sandler, Mark Dredze, Koby Crammer, Fernando Pereira. **DRASO: Declaratively Regularized Alternating Structural Optimization.** *ICML 2008 Workshop on Prior Knowledge for Text and Language Processing*, Helsinki, Finland.
6. Mark Dredze, John Blitzer, Partha Pratim Talukdar, Kuzman Ganchev, Joao Graca, and Fernando Pereira. **Frustratingly Hard Domain Adaptation for Dependency Parsing.** *CoNLL Shared Task Session of EMNLP-CoNLL 2007*, Prague.
7. Kedar Bellare, Partha Pratim Talukdar, Giridhar Kumaran, Fernando Pereira, Mark Liberman, Andrew McCallum and Mark Dredze. **Lightly-Supervised Attribute Extraction.** *NIPS 2007 Workshop on Machine Learning for Web Search*, Whistler, Canada.
8. Kalika Bali, A.G.Ramakrishnan, Partha Pratim Talukdar, N. Sridhar Krishna, **Towards the Development of a Hindi Speech Synthesis System**, *5th ISCA Speech Synthesis Workshop*, 2004, Carnegie Mellon University, USA.

Technical Reports

1. Paramveer Dhillon, Partha Pratim Talukdar, Koby Crammer. **Inference-Driven Metric Learning (IDML) for Graph Construction.** *University of Pennsylvania CIS Technical Report: MS-CIS-10-18.*
2. Partha Pratim Talukdar. **Topics in Graph Construction for Semi-Supervised Learning.** *University of Pennsylvania CIS Technical Report MS-CIS-09-13.*

PATENT

Anitha Kannan, Partha Pratim Talukdar, Nikhil Rasiwasia, Qifa Ke, Rakesh Agrawal. **Accurate Text Classification Through Selective Use of Image Data.** United States Patent Application 20120314941.

SOFTWARE

Junto: The Label Propagation Toolkit (<https://github.com/parthatalukdar/junto>): This toolkit consists of standalone as well as Hadoop-based implementations of various graph-based semi-supervised learning (SSL) algorithms. [Downloaded 680+ times as of February 2014]

OCRD: Implementation of our Rate-Distortion theory-based one class classification algorithm (Crammer et al., ICML 2008) to select a coherent subset of points from a large set.

HONORS AND AWARDS

- IBM Faculty Award, 2016
- MSE Visiting Fellowship, University of Melbourne, Australia, 2016
- Google Focused Research Award, 2014, 2015, 2016 (By Invitation Only)
- Accenture Open Innovation Research Award, 2015
- Spotlight Talk Award, Machine Learning Symposium (2014), New York Academy of Sciences
- Graduate Fellowship, CIS Department, University of Pennsylvania
- CIDR 2009 Graduate Student Scholarship
- Best Poster Award, North East DB-IR Day (Fall 2008)
- Young Engineering Fellowship (YEFP) awarded by Indian Institute of Science (IISc) to a total of 25 students in India for the 2002-2003 year.
- Govt. of India (North Eastern Council) Scholarship for academic excellence

STUDENT ADVISING & MENTORING

- Prakhar Ojha (MSc (CSA), Indian Institute of Science) Aug 2014 - Present
- Chandrahas D. (PhD (CSA), Indian Institute of Science) Aug 2015 - Present
- Madhav N. (PhD (CSA), Indian Institute of Science) Aug 2015 - Present
- Sharmistha (PhD (CDS), Indian Institute of Science) Aug 2015 - Present
- Ashutosh Kumar (PhD (CSA), Indian Institute of Science) Aug 2016 - Present
- Y. Naganand (PhD (CSA), Indian Institute of Science) Aug 2016 - Present
- Manjunath Hegde (MTech (SERC), Indian Institute of Science) Aug 2015 - 2016
- Arabinda Moni (ME (CSA), Indian Institute of Science) Aug 2015 - 2016
- Ranjitha Kulkarni, Lingjuan Peng, Shuai Wang (VLIS, Carnegie Mellon) Fall 2012
- Arash Enayati, (Undergraduate Student, CMU Qatar) Summer 2012
- Guo Chen, Yilun Cui, Liuyi Sun (VLIS Masters Students, Carnegie Mellon) Spring 2012
- Malcolm Greaves (Undergraduate Student, Carnegie Mellon) Fall 2011
- Kunal Lala (Undergraduate Student, University of Pennsylvania) Summer 2007
- Deepa S.R. (Undergraduate Student, BITS, Pilani) Spring 2004

TEACHING

- SE 256: Scalable Systems for Data Science**, Indian Institute of Science Spring 2016
- E1 246: Natural Language Understanding**, Indian Institute of Science Fall 2015
- SE 294: Data Analysis and Visualization**, Indian Institute of Science Spring 2015
- SE 305: Topics in Web-scale Knowledge Harvesting**, Indian Institute of Science Fall 2014

26th European Summer School in Logic, Language and Information (ESSLLI) Co-Instructor	2014
Tutorial, Intl. Conf. on Acoustics, Speech, Signal Processing (ICASSP) Co-Instructor (Participants: 63)	2013
Lisbon Machine Learning School Instructor (Participants: 110)	2012
Tutorial, Association of Computational Linguists (ACL) Co-Instructor (Participants: 70)	2012
10-605 Machine Learning with Large Datasets , Carnegie Mellon University Guest Lecturer (Instructor: Prof. William Cohen)	Spring 2012
Certificate in College and University Teaching Center for Teaching and Learning (CTL), University of Pennsylvania	2010
CSE 112: Networked Life , University of Pennsylvania Teaching Assistant for Prof. Michael Kearns	Spring 2006
CSE 140: Intro. to Cognitive Science , University of Pennsylvania Teaching Assistant for Prof. Lyle Ungar and Prof. Virginia Richards	Fall 2005
BITS C481: Computer Networks , BITS Pilani, India Laboratory Instructor	Fall 2002

GRANTS

Principal Investigator, Google Focused Research Award on "Knowledgeable Neural Conversation Model". USD 50,000 (2016-2017)
Principal Investigator, Google Focused Research Award on "Towards A Unified and Interpretable Embedding of Knowledge and Text". USD 50,000 (2015-2016)
Principal Investigator, Robert Bosch India sponsored project on "Predicate Discovery from Instructional Documents". INR 17,00,000 (2015-16)
Principal Investigator, Microsoft Research India Virtual Centre 2016. USD 10,000 (2015-16)
Principal Investigator, IBM Research Open Science Collaboration Project. USD 4,000 (2015-16)
Co-Investigator of a Centre of Excellence in DNS Security funded by the Department of Electronics and Information Technology, Government of India. INR 437,00,000 (2015-2018)
Principal Investigator of University Research Grant from Accenture on "Task-directed Knowledge Graph Expansion for Improved Cognitive Computing". USD 25,000 (2015-2016)
Principal Investigator of Google Focused Research Award on "Goal-directed Ontology Extension for Natural Language Understanding". USD 50,000 (2014-2015)
Contributed to preparation of the National Science Foundation (NSF) Big Data grant "Big Tensor Mining: Theory, Scalable Algorithms and Applications". PIs: Christos Faloutsos (CMU), Tom Mitchell (CMU). USD 894,892 (2012 - 2016)

INVITED TALKS

Goal-directed Knowledge Graphs IIT Kanpur	Jul 2016
Distinguished Lecture Series, IBM Research India	Jun 2016
Allen Institute for Artificial Intelligence (AI2), USA	Jun 2016
Graph-based Learning for Web-scale Knowledge Harvesting Indian Institute of Technology (IIT), Kharagpur	Mar 2015

From Big Text to Big Knowledge
 Intel India Academic Forum Oct 2015
 Indian Statistical Institute (ISI), India Aug 2015
 Ericsson Research, India Feb 2015
 Alumni Research Talk, BITS Pilani, India Jan 2015
 CSE Department, Indian Institute of Technology (IIT) Madras Dec 2014
 Google, India Nov 2014

Knowledge Representation and Processing in Machines and Humans
 Center for Neurosciences (CNS) Seminar, Indian Institute of Science Dec 2014

Large-scale Learning over Graphs
 TextGraphs 2014, Doha, Qatar Oct 2014

Web-Scale Knowledge Harvesting
 IBM Research, India Aug 2014

Overcoming Knowledge Base Sparsity using Web Text as Interlingua
 Google Research, Mountain View, USA Apr 2014
 SIGMOD Workshop on Automatic Creation and Curation of KBs (WACCK) June 2014

Never-Ending Language Learning
 Mid-Atlantic Student Colloquium on Speech, Language and Learning Oct 2013
 NIPS 2013 Workshop on Knowledge Extraction from Text Dec 2013

Temporal Scoping of Relational Facts
 NLP Lab, Simon Fraser University May 2013

Tutorial on Graph-based Semi-Supervised Learning
 Database Seminar, Carnegie Mellon University Nov 2012

Coupled Temporal Scoping of Relational Facts
 Google Pittsburgh Feb 2012

Collective Discovery of Attribute Values
 Information Systems Seminar, Tepper School of Business (CMU) Oct 2011
 Indian Institute of Technology (IIT), Hyderabad Mar 2011

Graph-based Methods for Information Extraction & Integration
 Machine Learning Lunch, Carnegie Mellon University Oct 2011
 Harvard University Dec 2010
 Powerset (Microsoft) May 2010
 Microsoft Research Search Labs Apr 2010

Learning to Create Data-Integrating Queries
 UC Berkeley Machine Learning Tea Sep 2009

PROFESSIONAL
 SERVICES

Program Committee (PC) Chair
 • International Conference on Data Sciences (CoDS) 2017

Area Chair/Senior Program Committee
 • International Joint Conference on Artificial Intelligence (IJCAI) 2016
 • Association for Computational Linguistics (ACL) 2016
 • Empirical Methods in Natural Language Processing (EMNLP-CoNLL) 2012

Guest Editorial Board
 • Information Processing and Management (Special Issue: Time and Information Retrieval) 2015

Program Committee Member/Conference Reviewing
 • American Association of Artificial Intelligence (AAAI) 2010, 2011, 2013-17
 • Association for Computational Linguistics (ACL) 2011-17

- Conference on Database and Expert Systems Applications (DEXA) 2009
- Artificial Intelligence and Statistics (AISTATS) 2011-16
- International Conference on Natural Language Learning (CoNLL) 2013, 2016
- Conference of the European Association for Computational Linguistics (EACL) 2012, 2014, 2017
- Empirical Methods in Natural Language Processing (EMNLP) 2008, 2009, 2012-16
- North American Association for Computational Linguistics (NAACL) 2009-10, 2012-13, 2015-16
- International Conference on Computational Linguistics (COLING) 2016
- International Conference on Natural Language Processing (ICON) 2003, 2015, 2016
- International Conference on Machine Learning (ICML) 2013-16
- International Joint Conference on Artificial Intelligence (IJCAI) 2009, 2015, 2016
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2013-2016
- North-East Students Colloquium on Artificial Intelligence (NESCAI) 2006, 2007, 2008
- Neural Information Processing Systems (NIPS) 2008, 2009, 2011-16
- World Wide Web Conference (WWW) 2013-17
- Web Search and Data Mining (WSDM) 2015-17

Journal Reviewing

- ACM Computing Surveys
- ACM Transactions on the Web
- Artificial Intelligence
- IEEE Transactions on Knowledge on Data Engineering (TKDE)
- IEEE Transactions on Neural Networks and Learning Systems
- Information Processing and Management
- Journal of Artificial Intelligence Research (JAIR)
- Journal of Machine Learning Research (JMLR)
- Journal of Natural Language Learning (JNLE)
- Journal of Web Semantics
- Machine Learning
- Pattern Recognition
- PLoS ONE
- Transactions of the ACL (TACL)

Meeting Organization

- Second Conference on Data Sciences (CoDS), Student Travel Awards Coordinator 2015
- NIPS Workshop on Automatic Knowledge Base Construction (AKBC), Co-organizer 2014
- CIKM Workshop on Automatic Knowledge Base Construction (AKBC), Co-organizer 2013
- NAACL-HLT Workshop on Automatic Knowledge Base Construction, Co-organizer 2012
- North East Student Colloquium on Artificial Intelligence (NSECAI), Co-organizer 2007
- Computational Linguistic Lunch, University of Pennsylvania, Co-organizer 2005 – 2006

Other

- Grand Award Judge, Intel International Science and Engineering Fair (ISEF) 2012
- Graduate Student Engineering Group Representative, Univ. of Pennsylvania 2007 – 2008

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| UNIVERSITY &
OTHER SERVICES | • PhD Comprehensive Examiner for Shruti Chhabra (IIIT Delhi) | 2015 |
| | • PhD Comprehensive Examiner for Malavika Samak (CSA, Indian Institute of Science) | 2015 |
| | • ME Thesis Examiner for Saneem Ahmed (CSA, Indian Institute of Science) | 2014 |
| | • Departmental Space Committee, SERC, Indian Institute of Science | 2014 - Present |
| | • Departmental Website Committee, SERC, Indian Institute of Science | 2014 - Present |
| | • Departmental Equipment Purchase Committee, SERC, Indian Institute of Science | 2014 - Present |

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| MISCELLANEOUS | Volunteer, Western Pennsylvania Humane Society, Pittsburgh, PA | 2011 - 2014 |
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| REFERENCES | Available upon request. |
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