Mausam

Associate Professor, Indian Institute of Technology Delhi
Affiliate Faculty, University of Washington, Seattle

Email: *mausam@cse.iitd.ac.in*, *mausam@cs.washington.edu*
Website: *http://www.cs.washington.edu/homes/mausam*

Research Interests

Artificial Intelligence: Sequential Decision Making under Uncertainty, AI Applications to Crowd-Sourcing and Education, Natural Language Processing, Markov Decision Processes, Web Information Extraction, Multi-Document Summarization, Automated Planning, Panlingual Machine Translation, Machine Learning, Probabilistic Reasoning, Heuristic Search.

Education

2004 – 2007	**Ph.D.** Advisor : Daniel S. Weld
	Dissertation: *Stochastic Planning with Concurrent, Durative Actions*
	Computer Science and Engineering. University of Washington, Seattle.
2001 – 2004	**Master of Science**. Advisor : Daniel S. Weld
	M.S. Thesis: *Solving Concurrent Markov Decision Processes*
	Computer Science and Engineering. University of Washington, Seattle.
1997 – 2001	**Bachelor of Technology**. (G.P.A.: 9.45/10, Dept. Rank 1)
	Computer Science and Engineering. Indian Institute of Technology, Delhi.

Employment

Jul'14 – present	**Associate Professor**, Indian Institute of Technology, Delhi
Oct'13 – Jul'14	**Visiting Faculty**, Indian Institute of Technology, Delhi
Oct'07 – Sep'13	**Research Assistant Professor**, Turing Center, University of Washington, Seattle
Aug'07 – Sep'07	**Post-Doctoral Researcher**, University of Washington, Seattle
Jun'02 – Aug'07	**Research Assistant**, University of Washington, Seattle
Oct'04 – Dec'04	**Intern**, NASA Ames Research Center, Mountain View, CA
Oct'01 – Jun'02	**Teaching Assistant**, University of Washington, Seattle
Jun'00 – Aug'00	**Intern**, Max Planck Institut fur Informatik, Saarbrucken, Germany

Mentoring Experience

Jul'16 – present	**Co-advisor, Haroun Habeeb**
	Exploiting Symmetries for Computer Vision
Jul'16 – present	**Co-advisor, Barun Patra**
	Understanding Multi-Sentence Questions
Jul'16 – present	**Co-advisor, Tapas Jain**
	An MDP Planner with the Power of State-Action Symmetries
Jul'16 – present	**Advisor, Arindam Bhattacharya & Akshay Gupta**
	Deep Learning for AI Planning
Apr'15 – present	**Advisor, Swarnadeep Saha**
	Open Information Extraction 5.0

Dec'15 – present **Advisor, Dinesh Raghu & Surag Nair**
Event Extraction
Dec'15 – present **Advisor, Shikhar Murty**
Inference over Open IE Knowledge-bases
Jul'14 – present **Co-Advisor, Ankit Anand**
Domain Abstractions in MDPs and Probabilistic Inference
Nov'13 – present **Advisor, Prachi Jain**
Open Inference Rule Learning.
May'13 – present **Co-advisor, Danish Contractor**
An Integrated Travel Planning System.
Apr'13 – present **Co-advisor, Jonathan Bragg**
Decision-theoretic Task Routing for Crowdsourcing
[Master's Thesis] *Match-making for the Crowd: Asking More Informative Questions*
Oct'11 – present **Co-advisor, Christopher Lin**
Artificial Intelligence for Crowdsourcing.
[Generals] *Reactive Learning*
[Master's Thesis] *Two Decision-Theoretic Solutions for Crowdsourcing*
Jul'15 – Jul'16 **Co-advisor, Poojan Mehta**
Open Question Parsing
Jul'15 – Jul'16 **Co-advisor, Ritesh Noothigattu**
[B.Tech. Thesis] *On the Go Abstractions in UCT for MDP Planning*
Thesis awarded Suresh Chandra Memorial Award for best IITD-CSE B.Tech. Project.
Jul'15 – Jul'16 **Co-advisor, Ajay Rathee**
[Master's Thesis] *Analysis of Minimal Complexity Machine and Compressive Sensing in Text Analytics*
May'15 – Jul'16 **Advisor, Harinder Pal**
[Master's Thesis] *Extraction from Compound Nouns and Numerical Expressions for Open IE*
Jan'15 – Jul'16 **Advisor, Karan Goel & Shreya Rajpal**
[Master's & B.Tech. Theses] *A Framework for Cost-Quality-Time Optimization in Crowdsourcing*
Worker Pool Switching for Crowdsourcing
Jan'14 – Jul'16 **Advisor, Madhur Gupta**
[Master's Thesis] *Knowledge Concept Maps*
Student Modeling for e-Education.
May'14 – Dec'15 **Advisor, Satwant Rana**
Coordinating Conjunction Disambiguation for Extraction
Jul'14 – Aug'15 **Co-Advisor, Aditya Grover**
[B.Tech. Thesis] *A Unified Abstraction Framework for Sequential Decision Making*
Thesis awarded IITD-CSE Award for Best Hardcore Experimental Project
Jan'15 – Jul'15 **Advisor, Sherjil Ozair**
[Master's Thesis] *Domain Adaptation of Word Embeddings*
May'14 – Jul'15 **Co-Advisor, Aman Madaan & Ashish Mathur**
[Master's Thesis] *Numerical Relation Extraction with Minimal Supervision*
Jan'14 – Jul'15 **Advisor, Shashank Jain**
[B.Tech. Thesis] *Value of Contribution in Micro-Crowdsourcing.*
Jan'14 – Jul'15 **Advisor, Abhishek Yadav**
[Master's Thesis] *An Open-IE based Approach for Knowledge-Base Population.*
Jun'13 – Jul'15 **Advisor, Gagan Bansal**
[B.Tech. Thesis] *Multi-Paragraph Summarization.*
Diversity in Multi-Document Summarization.
Jul'14 – May'15 **Advisor, Tushar Gupta**
Dynamic Topic Models for Sentence Clustering.
Jun'13 – Sep'14 **Advisor, Dan Butler**

[Master's Thesis] *Talking about Data: Web Text Can Aid Causal Structure Learning.*

Sep'08 – Sep'14 **Advisor, Janara Christensen.**
[Ph.D. Dissertation] *Towards Large Scale Summarization.*
[Generals] *Towards Large Scale Summarization.*
[Master's Thesis] *Semantic Role Labeling for Open Information Extraction.*

Apr'13 – Dec'13 **Advisor, Melissa Winstanley**
[Master's Thesis] *Exploring Sentence Partitioning for Multi-Paragraph Multi-Document Summarization.*

May'11 – Sep'13 **Post-doctoral Co-Mentor, Niranjan Balasubramanian**
Probabilistic Model of Relations in Text.

Mar'09 – Aug'13 **Co-advisor, Alan Ritter**
[Ph.D. Dissertation] *Extracting Knowledge from Twitter and the Web.*
[Generals] *Open Domain Event Extraction in Social Media.*
Natural Language Processing over Twitter.
LDA based Model for Selectional Preferences.

Nov'11 – Jun'13 **Advisor, Benjamin Sidhom**
Student Modeling for Online Education.
Reactive RTDP for Large Markov Decision Processes.

Oct'07 – Jun'13 **Co-advisor, Andrey Kolobov**
[Ph.D. Dissertation] *Scalable Methods and Expressive Models for Planning under Uncertainty.*
Ph.D. Dissertation awarded an honorable mention for ICAPS 2014 Best Dissertation Award
[Generals] *Solving Bigger and Better MDPs.*
[Master's Thesis] *MDP Algorithms Based on Determinized Domains.*

Nov'09 – Oct'12 **Co-advisor, Thomas Lin**
[Ph.D. Dissertation] *Leveraging Knowledge Bases in Web Text Processing*
[Generals] *Leveraging Knowledge Bases in Web Text Processing.*
Learning Meta-properties of Natural Language Relations.

Oct'11 – Dec'11 **Advisor, Ryan Oman**
Co-reference for Open Information Extraction.

Jun'07 – Jun'11 **Co-advisor, Peng Dai**
[Ph.D. Dissertation] *Decision Making under Uncertainty: Scalability and Applications.*
Ph.D. Dissertation awarded an honorable mention for ICAPS 2012 Best Dissertation Award
[Generals] *Decision-Theoretic Control of Crowdsourced Workflows.*
[Master's Thesis] *External Memory Algorithms for MDPs.*

Nov'09 – Aug'10 **Co-advisor, Yoav Artzi**
User Feedback in Topic Models for Selectional Preferences.

Oct'09 – Jun'10 **Co-advisor, Brendan Roof**
[Undergraduate Honors Thesis] *Finding and Applying Relational Nouns.*
Active Learning for Domain Adaptation of Open IE Tuples.

Jan'09 – Apr'10 **Advisor, Bo Qin**
[Master's Thesis] *Readability Classifier for Natural Language Text.*
Cross Language Word Sense Disambiguation.

Oct'08 – May'09 **Advisor, Benjamin Lee**
[Undergraduate Honors Thesis] *Extending PanDictionary.*

Jan'08 – Jun'08 **Co-advisor, Michael Skinner**
[Undergraduate Honors Thesis] *Compiling a PanLingual Dictionary.*

Mar'05 – Jan'06 **Co-advisor, Jiun-Hung Chen**
[Master's Thesis] *Naive Bayes POMDPs.*

Teaching Experience

Jan'17 – May'17   **Instructor**, Graduate Course, *Advanced NLP: Information Extraction, Question Answering & Dialog*
Jul'16 – Dec'16   **Instructor**, Undergraduate (and Graduate Bridge) Course, *Artificial Intelligence*
Jan'16 – May'16   **Instructor**, Graduate Course, *Natural Language Processing*
Jul'15 – Dec'15   **Instructor**, Undergraduate (and Graduate Bridge) Course, *Artificial Intelligence*
Jan'15 – May'15   **Instructor**, Undergraduate (and Graduate Bridge) Course, *Artificial Intelligence*
Jul'14 – Dec'14   **Instructor**, Graduate Course, *Natural Language Processing*
Jan'14 – May'14   **Instructor**, Undergraduate (and Graduate Bridge) Course, *Artificial Intelligence*
Sep'12 – Dec'12   **Instructor**, Graduate Course, *Applications of Artificial Intelligence*
Apr'12 – Jun'12   **Instructor**, Graduate Course, *Artificial Intelligence*
Jan'12 – Mar'12   **Organizer**, Machine Learning Lunch and AI Seminar. Topic: *Advanced Tutorials in ML and AI*
Jan'11 – Mar'11   **Instructor**, Graduate Course, *Applications of Artificial Intelligence*
Jan'09 – Mar'09   **Organizer**, AI Seminar. Topic: *Tutorials in Advanced AI*
Oct'08 – Dec'08   **Organizer**, AI Seminar. Topic: *The Current Research in AI*
Oct'07 – Dec'07   **Organizer**, AI Seminar. Topic: *The Future of AI*
Oct'01 – Jun'02   **Teaching Assistant**, University of Washington
                       Digital Hardware Design, Data Structures, Introduction to Programming I.
Jan'01 – May'01   **Teaching Assistant**, Indian Institute of Technology, Delhi
                       Data Structures.

Grants and Contracts

- Principal Investigator: Mausam. "Hybrid DistMult-Matrix Factorization Models for Open IE Inference". Google's Language Understanding and Knowledge Discovery Focused Research Award. 2017. $50,000.

- Co-Principal Investigator: Nomesh Bolia, Mausam. "Data Driven Legal Reforms". IIT Delhi's Faculty Interdisciplinary Research Proposals Seed Grant. 2016-2017. $7700 (INR 5,00,000).

- Principal Investigator: Mausam. "Reciprocal Recommendation Systems". A contract with TrulyMadly Matchmakers Pvt. Ltd., New Delhi. 2016-2017. $8,000 (INR 4,80,000).

- Principal Investigator: Mausam. "Coherent Multi-Document Summarization". Bloomberg's Data Science Research Grant. 2015-2016. $42,000.

- Principal Investigator: Mausam. "Asymmetric Relation Phrase Embeddings from Diverse Knowledge Sources". Google's Language Understanding and Knowledge Discovery Focused Research Award. 2015-2016. $50,000.

- Principal Investigator: Mausam. "Information Extraction from Real Estate Texts". A contract with Plabro Networks Pvt. Ltd., Gurgaon. 2015-2016. $1,667 (INR 1,00,000).

- Principal Investigator: Mausam. "Mindspark Student Modeling and Prediction Modeling". A contract with Educational Initiatives Pvt. Ltd., Ahmedabad. 2015-2016. $16,667 (INR 10,00,000).

- Principal Investigator: Mausam. "Open Inference Rule Learning". Google's Language Understanding and Knowledge Discovery Focused Research Award. 2014-2015. $50,000.

- Principal Investigator: Mausam, Parag Singla. "Research on Knowledge Representation and Extraction of Single Event." The Korean Institute of Science and Technology Information (KISTI) IIT Joint Research Contract. 2014. $90,000.

- Principal Investigator: Mausam. "Large-Scale News Summarization for Mobile". Yahoo! Faculty Research and Engagement Award. 2013-2014. $30,000.

- Co-Principal Investigator: Oren Etzioni, Carlos Guestrin, Mausam, Stephen Soderland. "Open Information Extraction for Situational Awareness and Event Prediction". Army Research Office, ARO contract W911NF-13-1-0246. 2013-2016. $1,500,000.

- Co-Principal Investigator: Oren Etzioni, Pedro Domingos, Mausam, Daniel S. Weld, Luke Zettlemoyer. "DEFT Program: Composing Information Extraction, Semantic Parsing and Tractable Inference for Deep NLP". Air Force Research Laboratory, AFRL contract FA8750-13-2-0019 (DARPA direct). 2012-2017. $4,581,964.

- Co-Principal Investigator: Oren Etzioni, Mausam. "DOVETAIL: DOmain Vocabulary from Extraction, Transduction, and Auto Induction of Layout". Air Force Research Laboratory, AFRL contract FA8650-10-C-7058 (subcontract with SRI International). 2010-2014. $1,556,391.94.

  - Principal Investigator. "Scaling Up Multi Document Summarization". UW-IIT Subcontract. 2013-2014. $77,844.

- Principal Investigator: Mausam. "Integrating Paradigms for Approximate Stochastic Planning". National Science Foundation IIS-1016465. 2010-2013. $450,508.

  - Research Experience for Undergraduates Supplement. $16,000.

- Co-Principal Investigator: Daniel S. Weld, Mausam. "Decision-Theoretic Control of Crowd-Sourced Workflows". National Science Foundation IIS-1016713. 2010-2013. $304,669.

- Key Personnel: Oren Etzioni. "ERUDITE: A Machine that Reads". Air Force Research Laboratory, AFRL contract FA8750-09-C-0179 (subcontract with BBN Technologies). 2009-2012.

- Co-Principal Investigator: Oren Etzioni, Pedro Domingos, Stephen Soderland, Mausam. "Reading the Web: Utilizing Markov Logic in Open Information Extraction". National Science Foundation IIS-0803481. 2008-2011. $899,716.

- Co-Principal Investigator: Magdalena Balazinska, Andrew Connolly, Oren Etzioni, Jeffrey Gardener, Bill Howe, Mausam, Daniel S. Weld. Yahoo! Grant for the use of their cloud computing cluster. 2010-2011.

- Key Personnel: Oren Etzioni. "News Retrieval for Cars". Toyota Corporation Gift. $75,000. 2008-2009.

Patents

- Oren Etzioni, Robert E. Bart, Mausam, Michael D. Schmitz, Stephen G. Soderland. "Open language learning for information extraction". United States Patent Application 20140156264 A1. 2013. *Pending.*

Workshops

- Daniel S. Weld, Mausam, Eric Horvitz, Meredith Morris. "Crowdsourcing Personalized Online Education". A University of Washington-Microsoft Research Summer Institute. Cle Elum, WA. July 2012.

- Daniel Bryce, Mausam, Sungwook Yoon. "A Reality Check for Planning and Scheduling Under Uncertainty". A full-day workshop organized at *International Conference on Automated Planning and Scheduling (ICAPS)*. Sydney, Australia. September 2008.

Tutorials

- Mausam. "Bayesian Networks: Representation, Inference and Learning". A tutorial at *International Course on Multimodal and Advanced Biometrics Authentication*. Jaipur, Rajasthan. January 2017.

- Andrey Kolobov, Mausam. "An Overview of MDP Planning Research at ICAPS". A tutorial at 8th *Barbados Workshop on Reinforcement Learning.* Barbados. April 2013.

- Andrey Kolobov, Mausam. "MDPs for Probabilistic Planning". A half-day tutorial at *AAAI Conference on Artificial Intelligence (AAAI).* Toronto, ON, Canada. July 2012.

- Andrey Kolobov, Mausam. "Probabilistic Planning". A half-day tutorial at 7th Planning and Scheduling School. Sao Paolo, Brazil. June 2012.

- Mausam, David E. Smith, Sylvie Thiebaux. "Probabilistic Temporal Planning". A half-day tutorial at *International Conference on Automated Planning and Scheduling (ICAPS).* Providence, RI, USA. September 2007.

Publications

Books and Book Chapters

- Daniel S. Weld, Mausam, Christopher H. Lin, Jonathan Bragg. "Artificial Intelligence and Collective Intelligence". A book chapter in The Collective Intelligence Handbook. MIT Press. October 2015.

- Mausam, Andrey Kolobov. "Planning with Markov Decision Processes: An AI Perspective". Synthesis Lectures on Artificial Intelligence and Machine Learning, Morgan and Claypool Publishers, June 2012.

Editors

- Madhav Marathe, Mukesh K. Mohania, Mausam, Prateek Jain. "Proceedings of the 3rd IKDD Conference on Data Science (CODS)". Pune, India, March 2016. ISBN 978-1-4503-4217-9.

Refereed Journal Articles

1. Alan Ritter, Luke Zettlemoyer, Mausam, Oren Etzioni. "Modeling Missing Data in Distant Supervision for Information Extraction". *Transactions of the Association for Computational Linguistics (TACL).* Volume 1(October) (2013) 367-378. Presented at Empirical Methods in Natural Language Processing (EMNLP'13), Seattle, WA, USA.

2. Peng Dai, Christopher H. Lin, Mausam, Daniel S. Weld. "TurKontrol: POMDP-based Control for Crowdsourcing". *Artificial Intelligence Journal (AIJ).* Volume 202 (2013) 52-85.

3. Andrey Kolobov, Mausam, Daniel S. Weld. "Discovering Hidden Structure in Factored MDPs". *Artificial Intelligence Journal (AIJ).* Volume 189 (2012) 19-47.

4. Peng Dai, Mausam, Daniel S. Weld. "Topological Value Iteration Algorithms". *Journal of Artificial Intelligence Research (JAIR).* Volume 42 (2011) 181-209.

5. Stephen Soderland, Brendan Roof, Bo Qin, Shi Xu, Mausam, Oren Etzioni. "Adapting Open Information Extraction to Domain-Specific Relations". *AI Magazine*. Volume 31 Issue 3 (2010) 93-102.

6. Mausam, Stephen Soderland, Oren Etzioni, Daniel S. Weld, Kobi Reiter, Michael Skinner, Marcus Sammer, Jeff Bilmes. "Panlingual Lexical Translation via Probabilistic Inference". *Artificial Intelligence Journal (AIJ).* Volume 174 Issues 9-10 (2010) 619-637.

7. Nicolas Meuleau, Emmanuelle Benazera, Ronen I. Brafman, Eric A. Hansen, Mausam. "A Heuristic Search Approach to Planning with Continuous Resources in Stochastic Domains". *Journal of Artificial Intelligence Research (JAIR).* Volume 34 (2009) 27-59.

8. Mausam, Daniel S. Weld. "Planning with Durative Actions in Stochastic Domains". *Journal of Artificial Intelligence Research (JAIR).* Volume 31 (2008) 33-82.

Archival Conference Papers

1. Karan Goel, Shreya Rajpal, Mausam. "Octopus: A Framework for Cost-Quality-Time Optimization in Crowdsourcing". *Conference on Human Computation and Crowdsourcing (HCOMP).* Quebec City, Canada. October 2017. [Acceptance Rate: 29%]

2. Haroun Habeeb, Ankit Anand, Mausam, Parag Singla. "Coarse-to-Fine Lifted MAP Inference in Computer Vision". *International Joint Conference on Artificial Intelligence (IJCAI).* Melbourne, Australia. August 2017. [Acceptance Rate: 26%]

3. Swarnadeep Saha, Harinder Pal, Mausam. "Bootstrapping for Numerical Open IE". *Annual Meeting of the Association for Computational Linguistics (ACL)* Vancouver, Canada. August 2017.. [Acceptance Rate (Short): %]

4. Ankit Anand, Ritesh Noothigattu, Parag Singla, Mausam. "Non-Count Symmetries in Boolean & Multi-Valued Prob. Graphical Models". *International Conference on Artificial Intelligence and Statistics (AISTATS).* Fort Lauderdale, Florida. April 2017. [Acceptance Rate: 32%]

5. Mausam. "Open Information Extraction Systems and Downstream Applications". Invited Paper for Early Career Spotlight Track. *International Joint Conference on Artificial Intelligence (IJCAI).* New York, NY, USA. July 2016.

6. Ankit Anand, Aditya Grover, Mausam, Parag Singla. "Contextual Symmetries in Probabilistic Graphical Models". *International Joint Conference on Artificial Intelligence (IJCAI).* New York, NY, USA. July 2016. [Acceptance Rate: 24%]

7. Danish Contractor, Mausam, Parag Singla. "Entity-balanced Gaussian pLSA for Automated Comparison". *Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT).* San Diego, CA, USA. June 2016. *To appear.* [Acceptance Rate: 25%]

8. Prachi Jain, Mausam. "Knowledge Guided Linguistic Rewrites for Inference Rule Verification". *Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT).* San Diego, CA, USA. June 2016. *To appear.* [Acceptance Rate (Short): 29%]

9. Ankit Anand, Ritesh Noothigattu, Mausam, Parag Singla. "OGA-UCT: On the Go Abstractions in UCT". *International Conference on Automated Planning and Scheduling (ICAPS).* London, United Kingdom. June 2016. *To appear.* [Acceptance Rate: 35%]

10. Jonathan Bragg, Mausam, Daniel S. Weld. "Optimal Testing for Crowd Workers". *International Conference on Autonomous Agents and Multiagent Systems (AAMAS).* Singapore. May 2016. [Acceptance Rate: 25%]

11. Aman Madaan, Ashish Mittal, Mausam, Ganesh Ramakrishnan, Sunita Sarawagi. "Numerical Relation Extraction with Minimal Supervision". *AAAI Conference on Artificial Intelligence (AAAI).* Phoenix, AZ, USA. February 2016. [Acceptance Rate: 26%]

12. Christopher H. Lin, Mausam, Daniel S. Weld. "Re-active Learning: Active Learning with Relabeling". *AAAI Conference on Artificial Intelligence (AAAI).* Phoenix, AZ, USA. February 2016. [Acceptance Rate: 26%]

13. Gabriel Stanovsky, Ido Dagan, Mausam. "Open IE as an Intermediate Structure for Semantic Tasks". *Joint Conference of the Annual Meeting of the Association for Computational Linguistics and International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP).* Beijing, China. July 2015. [Acceptance Rate: 22.3%]

14. Ankit Anand, Aditya Grover, Mausam, Parag Singla. "ASAP-UCT: Abstraction of State-Action Pairs in UCT". *International Joint Conference on Artificial Intelligence (IJCAI).* Buenos Aires, Argentina. July 2015. [Acceptance Rate: 29%]

15. Christopher H. Lin, Mausam, Daniel S. Weld. "To Re(label), or Not To Re(label)". *Conference on Human Computation and Crowdsourcing (HCOMP).* Pittsburgh, PA, USA. November 2014. [Acceptance Rate: 32%]

16. Jonathan Bragg, Andrey Kolobov, Mausam, Daniel S. Weld. "Parallel Task Routing for Crowdsourcing". *Conference on Human Computation and Crowdsourcing (HCOMP).* Pittsburgh, PA, USA. November 2014. [Acceptance Rate: 32%]

17. Janara Christensen, Stephen Soderland, Gagan Bansal, Mausam. "Hierarchical Summarization: Scaling Up Multi-Document Summarization". *Annual Meeting of the Association for Computational Linguistics (ACL).* Baltimore, MD, USA. June 2014. [Acceptance Rate: 27%] [Acceptance Rate (Oral): 19%]

18. Jonathan Bragg, Mausam, Daniel S. Weld. "Crowdsourcing Multi-Label Classification for Taxonomy Creation". *Conference on Human Computation and Crowdsourcing (HCOMP).* Palm Springs, CA, USA. November 2013. **Best paper award.** [Acceptance Rate: 30%]

19. Niranjan Balasubramanian, Stephen Soderland, Mausam, Oren Etzioni. "Generating Coherent Event Schemas at Scale". *Empirical Methods in Natural Language Processing (EMNLP).* Seattle, WA, USA. October 2013. [Acceptance Rate: 27%] [Acceptance Rate (Oral): 11%]

20. Janara Christensen, Mausam, Stephen Soderland, Oren Etzioni. "Towards Coherent Multi-Document Summarization". *Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT).* Atlanta, GA, USA. June 2013. [Acceptance Rate: 30%] [Acceptance Rate (Oral): 21%]

21. Christopher H. Lin, Mausam, Daniel S. Weld. "Crowdsourcing Control: Moving Beyond Multiple Choice". *Conference on Uncertainty in Artificial Intelligence (UAI).* Catalina Island, CA, USA. August 2012. [Acceptance Rate: 31%]

22. Andrey Kolobov, Mausam, Daniel S. Weld. "A Theory of Goal-Oriented MDPs with Dead Ends". *Conference on Uncertainty in Artificial Intelligence (UAI).* Catalina Island, CA, USA. August 2012. [Acceptance Rate: 31%]

23. Alan Ritter, Mausam, Oren Etzioni, Sam Clark. "Open Domain Event Extraction from Twitter". *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD).* Beijing, China. August 2012. [Acceptance Rate: 18%]

24. Mausam, Michael Schmitz, Stephen Soderland, Robert Bart, Oren Etzioni. "Open Language Learning for Information Extraction". *Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning (EMNLP-CONLL).* Jeju, Korea. July 2012. [Acceptance Rate: 22%]

25. Thomas Lin, Mausam, Oren Etzioni. "No Noun Phrase Left Behind: Detecting and Typing Unlinkable Entities". *Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning (EMNLP-CONLL).* Jeju, Korea. July 2012. [Acceptance Rate (Oral): 16%]

26. Christopher Lin, Mausam, Daniel S. Weld. "Dynamically Switching between Synergistic Workflows for Crowdsourcing". *AAAI Conference on Artificial Intelligence (AAAI).* Toronto, ON, Canada. July 2012. Accepted for both poster and oral presentation. [Acceptance Rate: 26%] [Acceptance Rate (Oral): 12%]

27. Andrey Kolobov, Mausam, Daniel S. Weld. "LRTDP vs. UCT for Online Probabilistic Planning". *AAAI Conference on Artificial Intelligence (AAAI)*. Toronto, ON, Canada. July 2012. Accepted for both poster and oral presentation. [Acceptance Rate: 26%] [Acceptance Rate (Oral): 12%]

28. Andrey Kolobov, Mausam, Daniel S. Weld. "Reverse Iterative Deepening for Finite-Horizon MDPs with Large Branching Factors". *International Conference on Automated Planning and Scheduling (ICAPS)*. Sao Paolo, Brazil. June 2012. [Acceptance Rate: 35%]

29. Peng Dai, Mausam, Daniel S. Weld. "Artificial Intelligence for Artificial Artificial Intelligence". *AAAI Conference on Artificial Intelligence (AAAI)*. San Francisco, CA, USA. August 2011. Accepted for both poster and oral presentation. [Acceptance Rate (Oral): 25%][Acceptance Rate (Oral+Poster): 4.4%]

30. Alan Ritter, Sam Clark, Mausam, Oren Etzioni. "Named Entity Recognition in Tweets: An Experimental Study". *Empirical Methods in Natural Language Processing (EMNLP)*. Edinburgh, UK. July 2011. [Acceptance Rate: 23%][Acceptance Rate (Oral): 15%]

31. Oren Etzioni, Anthony Fader, Janara Christensen, Stephen Soderland, Mausam. "Open Information Extraction: the Second Generation". *International Joint Conference on Artificial Intelligence (IJCAI)*. Invited paper. Barcelona, Spain. July 2011.

32. Janara Christensen, Mausam, Stephen Soderland, Oren Etzioni. "An Analysis of Open Information Extraction based on Semantic Role Labeling". *International Conference on Knowledge Capture (KCAP)*. Banff, Alberta, Canada. June 2011. [Acceptance Rate: 24%]

33. Andrey Kolobov, Mausam, Daniel S. Weld, Hector Geffner. "Heuristic Search for Generalized Stochastic Shortest Path MDPs". *International Conference on Automated Planning and Scheduling (ICAPS)*. Freiburg, Germany. June 2011. [Acceptance Rate: 35%]

34. Thomas Lin, Mausam, Oren Etzioni. "Identifying Functional Relations in Web Text". *Empirical Methods in Natural Language Processing (EMNLP)*. Boston, MA, USA. October 2010. [Acceptance Rate (Oral): 14%]

35. Alan Ritter, Mausam, Oren Etzioni. "A Latent Dirichlet Allocation method for Selectional Preferences". *Annual Meeting of the Association for Computational Linguistics (ACL)*. Uppsala, Sweden. July 2010. [Acceptance Rate: 25%]

36. Mausam, Stephen Soderland, Oren Etzioni. "Panlingual Lexical Translation via Probabilistic Inference". *AAAI Conference on Artificial Intelligence Nectar Track (AAAI)*. Atlanta, GA, USA. July 2010. [Acceptance Rate (Nectar): 25%]

37. Peng Dai, Mausam, Daniel S. Weld. "Decision-Theoretic Control of Crowd-Sourced Workflows". *AAAI Conference on Artificial Intelligence (AAAI)*. Atlanta, GA, USA. July 2010. [Acceptance Rate (Oral): 27%]

38. Andrey Kolobov, Mausam, Daniel S. Weld. "SixthSense: Fast and Reliable Recognition of Dead Ends in MDPs". *AAAI Conference on Artificial Intelligence (AAAI)*. Atlanta, GA, USA. July 2010. Accepted for both oral and poster presentation. [Acceptance Rate (Oral): 27%][Acceptance Rate (Oral+Poster): 4%]

39. Andrey Kolobov, Mausam, Daniel S. Weld. "Classical Planning in MDP Heuristics: with a Little Help from Generalization". *International Conference on Automated Planning and Scheduling (ICAPS)*. Toronto, ON, Canada. May 2010. **Best paper nomination.** Extended version invited for submission to AI Journal. [Acceptance Rate: 34%]

40. Peng Dai, Mausam, Daniel S. Weld. "Focused Topological Value Iteration". *International Conference on Automated Planning and Scheduling (ICAPS)*. Thessaloniki, Greece. September 2009. [Acceptance Rate: 34%]

41. Stephen Soderland, Christopher Lim, Mausam, Bo Qin, Oren Etzioni, Jonathan Pool. "Lemmatic Machine Translation". *Machine Translation Summit XII*. Ottawa, Canada. August 2009.

42. Mausam, Stephen Soderland, Oren Etzioni, Daniel S. Weld, Michael Skinner, Jeff Bilmes. "Compiling a Massive, Multilingual Dictionary via Probabilistic Inference". *Joint conference of the Annual Meeting of the Association for Computational Linguistics and International Joint Conference on Natural Language Processing (ACL-IJCNLP).* Suntec, Singapore. August 2009. [Acceptance Rate: 21%]

43. Janara Christensen, Mausam, Oren Etzioni. "A Rose is a Roos is a Ruusu: Querying Translations for Web Image Search", *Joint conference of the Annual Meeting of the Association for Computational Linguistics and International Joint Conference on Natural Language Processing (ACL-IJCNLP).* Suntec, Singapore. August 2009. [Acceptance Rate: 25%]

44. Andrey Kolobov, Mausam, Daniel S. Weld. "ReTrASE: Integrating Paradigms for Approximate Probabilistic Planning". *International Joint Conference on Artificial Intelligence (IJCAI).* Pasadena, CA, USA. July 2009. [Acceptance Rate: 26%]

45. Peng Dai, Mausam, Daniel S. Weld. "Domain Independent, Automatic Partitioning for Probabilistic Planning". *International Joint Conference on Artificial Intelligence (IJCAI).* Pasadena, CA, USA. July 2009. [Acceptance Rate: 26%]

46. Peng Dai, Mausam, Daniel S. Weld. "Partitioned External-Memory Value Iteration". *AAAI Conference on Artificial Intelligence (AAAI).* Chicago, IL, USA. July 2008. [Acceptance Rate: 24%]

47. William Cushing, Subbarao Kambhampati, Karthik Talamadupula, Daniel S. Weld, Mausam. "Evaluating Temporal Planning Domains". *International Conference on Automated Planning and Scheduling (ICAPS).* Providence, RI, USA. September 2007. [Acceptance Rate: 32%]

48. Mausam, Piergiorgio Bertoli, Daniel S. Weld. "A Hybridized Planner for Stochastic Domains". *International Joint Conference on Artificial Intelligence (IJCAI).* Hyderabad, A.P., India. January 2007. [Acceptance Rate (Oral): 16%]

49. William Cushing, Subbarao Kambhampati, Mausam, Daniel S. Weld. "When is Temporal Planning *Really* Temporal?". *International Joint Conference on Artificial Intelligence (IJCAI).* Hyderabad, A.P., India. January 2007. [Acceptance Rate (Oral): 16%]

50. Mausam, Daniel S. Weld. "Probabilistic Temporal Planning with Uncertain Durations". *National Conference on Artificial Intelligence (AAAI).* Boston, MA, USA. July 2006. [Acceptance Rate (Oral): 22%]

51. Mausam, Daniel S. Weld. "Challenges for Temporal Planning with Uncertain Durations". *International Conference on Automated Planning and Scheduling (ICAPS).* The English Lake District, UK. June 2006. [Acceptance Rate (Poster): 69%]

52. Mausam, Emmanuelle Benazara, Ronen Brafman, Nicolas Meuleau, Eric Hansen. "Planning with Continuous Resources in Stochastic Domains". *International Joint Conference on Artificial Intelligence (IJCAI).* Edinburgh, Scotland. August 2005. [Acceptance Rate: 18%]

53. Mausam, Daniel S. Weld. "Concurrent Probabilistic Temporal Planning". *International Conference on Automated Planning and Scheduling (ICAPS).* Monterey, CA, USA. June 2005. [Acceptance Rate: 35%]

54. Nilesh Dalvi, Pedro Domingos, Mausam, Sumit Sanghai, Deepak Verma. "Adversarial Classification". *International Conference on Knowledge Discovery and Data Mining (SIGKDD).* Seattle, WA, USA. August 2004. [Acceptance Rate: 12%]

55. Mausam, Daniel S. Weld. "Solving Concurrent Markov Decision Processes". *National Conference on Artificial Intelligence (AAAI).* San Jose, CA, USA. July 2004. [Acceptance Rate: 26%]

Refereed Posters and Workshop Papers

1. Christopher Lin, Mausam, Daniel S. Weld. "Re-active Learning: Active Learning with Relabeling". *Conference on Human Computation and Crowdsourcing (HCOMP), Encore Track.* Austin, TX, USA. November 2016.

2. Ankit Anand, Aditya Grover, Mausam, Parag Singla. "Contextual Symmetries in Probabilistic Graphical Models". *International Workshop on Statistical Relational AI (StarAI) at IJCAI.* New York, NY. July 2016. **Best paper award.**

3. Harinder Pal, Mausam. "Demonyms and Compound Relational Nouns in Nominal Open IE". *Workshop on Automated Knowledge Base Construction (AKBC) at NAACL.* San Diego, CA, USA. June 2016.

4. Christopher H. Lin, Mausam, Daniel S. Weld. "Reactive learning: Actively Trading Off Larger Noisier Training Sets Against Smaller Cleaner Ones". *Active Learning Workshop & CrowdML – Workshop on Crowdsourcing and Machine Learning at ICML.* Lille, France. July 2015.

5. Jonathan Bragg, Mausam, Daniel S. Weld. "Learning on the Job: Optimal Instruction for Crowdsourcing". *Workshop on Crowdsourcing and Machine Learning at ICML.* Lille, France. July 2015.

6. Shreya Rajpal, Karan Goel, Mausam. "POMDP-Based Worker Pool Selection for Crowdsourcing". *Workshop on Crowdsourcing and Machine Learning at ICML.* Lille, France. July 2015.

7. Ankit Anand, Aditya Grover, Mausam, Parag Singla. "A Novel Abstraction Framework for Online Planning". Extended Abstract at *International Conference on Autonomous Agents and Multi-agent Systems (AAMAS).* Istanbul, Turkey. May 2015.

8. Christopher H. Lin, Mausam, Daniel S. Weld. "To Re(Label) or Not to Re(Label)". *Workshop on Crowdsourcing and Machine Learning at NIPS.* Montreal, Canada. December 2014.

9. Jonathan Bragg, Mausam, Daniel S. Weld. "Crowdsourcing Multi-Label Classification". *Poster and Presentation at CrowdConf Research Track.* San Francisco, CA, USA. October 2013.

10. Christopher H. Lin, Mausam, Daniel S. Weld. "Programming Self-Optimizing Workfows for Crowdsourcing - A Status Report". *Poster at CrowdConf Research Track.* San Francisco, CA, USA. October 2013.

11. Andrey Kolobov, Mausam, Daniel S. Weld. "Joint Crowdsourcing of Multiple Tasks". *Conference on Human Computation and Crowdsourcing (HCOMP), Work in Progress Track.* Palm Springs, CA, USA. November 2013.

12. Christopher H. Lin, Mausam, Daniel S. Weld. "Towards a Language for Non-Expert Specification of POMDPs for Crowdsourcing". *Conference on Human Computation and Crowdsourcing (HCOMP), Work in Progress Track.* Palm Springs, CA, USA. November 2013.

13. Daniel S. Weld, Eytan Adar, Lydia Chilton, Raphael Hoffmann, Eric Horvitz, Mitchell Koch, James Landay, Christopher H. Lin, Mausam. "Personalized Online Education: A Crowdsourcing Challenge". *Human Computation Workshop (HCOMP) at AAAI.* Toronto, ON, Canada. July 2012.

14. Christopher Lin, Mausam, Daniel S. Weld. "Dynamically Switching between Synergistic Workflows for Crowdsourcing". *Human Computation Workshop (HCOMP) at AAAI.* Toronto, ON, Canada. July 2012.

15. Christopher Lin, Mausam, Daniel S. Weld. "Crowdsourcing Control: Moving Beyond Multiple Choice". *Human Computation Workshop (HCOMP) at AAAI. Toronto, ON, Canada.* July 2012.

16. Andrey Kolobov, Mausam, Daniel S. Weld. "A Theory of Goal-Oriented MDPs with Dead Ends". *Workshop on Heuristics and Search for Domain Independent Planning at ICAPS.* Sao Paolo, Brazil, June 2012.

17. Thomas Lin, Mausam, Oren Etzioni. "Entity Linking at Web Scale". *The Knowledge Extraction Workshop (AKBC-WEKEX) at NAACL.* Montreal, Canada. June 2012.

18. Niranjan Balasubramanian, Stephen Soderland, Mausam, Oren Etzioni. "Rel-grams: A Probabilistic Model of Relations in Text". *The Knowledge Extraction Workshop (AKBC-WEKEX) at NAACL.* Montreal, Canada. June 2012.

19. Daniel S. Weld, Mausam, Peng Dai. "Execution Control for Crowdsourcing". *Poster at ACM Symposium on User Interface Software and Technology (UIST).* Santa Barbara, CA, USA. October 2011. [Acceptance Rate: 41%]

20. Daniel S. Weld, Mausam, Peng Dai. "Optimizing Crowd-Sourced Work Patterns". *Poster at CrowdConf.* San Francisco, CA, USA. October 2011.

21. Peng Dai, Mausam, Daniel S. Weld. "Decision-Theoretic Control for Crowdsourcing". *Poster at CrowdConf.* San Francisco, CA, USA. October 2011.

22. Daniel S. Weld, Mausam, Peng Dai. "Human Computation *Needs* Artificial Intelligence". *Human Computation Workshop (HCOMP) at AAAI.* San Francisco, CA, USA. July 2011.

23. Peng Dai, Mausam, Daniel S. Weld. "Artificial Intelligence for Artificial Artificial Intelligence". *Human Computation Workshop (HCOMP) at AAAI.* San Francisco, CA, USA. July 2011.

24. Thomas Lin, Mausam, Oren Etzioni. "Commonsense from the Web: Relation Properties". *AAAI Fall Symposium on Commonsense Knowledge (CSK).* Arlington, VA, USA. November 2010.

25. Janara Christensen, Mausam, Stephen Soderland, Oren Etzioni. "Semantic Role Labeling for Open Information Extraction". *Workshop on Formalisms and Methodology for Learning by Reading (FAM-LbR) at NAACL.* Los Angeles, CA, USA. June 2010.

26. Hoifung Poon, Janara Christensen, Pedro Domingos, Oren Etzioni, Raphael Hoffmann, Chloe Kiddon, Thomas Lin, Xiao Ling, Mausam, Alan Ritter, Stefan Schoenmackers, Stephen Soderland, Dan Weld, Fei Wu, Congle Zhang. "Machine Reading at the University of Washington". *Workshop on Formalisms and Methodology for Learning by Reading (FAM-LbR) at NAACL.* Los Angeles, CA, USA. June 2010.

27. Peng Dai, Mausam, Daniel S. Weld. "Decision-Theoretic Control of Crowd-Sourced Workflows". *Scheduling and Planning Applications woRKshop (SPARK) at ICAPS.* Toronto, ON, Canada. May 2010.

28. Andrey Kolobov, Mausam, Daniel S. Weld. "Determinize, Solve, and Generalize: Classical Planning for MDP Heuristics". *Workshop on Heuristics for Domain Independent Planning at ICAPS.* Thessaloniki, Greece. September 2009.

29. Andrey Kolobov, Mausam, Daniel S. Weld. "Regressing Deterministic Plans for MDP Function Approximation". *Workshop on a Reality Check for Planning and Scheduling under Uncertainty at ICAPS.* Sydney, Autralia. September 2008.

30. William Cushing, Subbarao Kambhampati, Kartik Talamadupula, Daniel S. Weld, Mausam. "Evaluating Temporal Planning Domains". *Workshop on International Planning Competition: Past, Present and Future, at ICAPS.* Providence, RI, USA. September 2007.

31. Emmanuelle Benazara, Ronen Brafman, Nicolas Meuleau, Mausam, Eric Hansen. "An AO* Algorithm for Planning with Continuous Resources". *Workshop on Planning under Uncertainty for Autonomous Systems, at ICAPS.* Monterey, CA, USA. June 2005.

32. Mausam, Daniel S. Weld. "Concurrent Probabilistic Temporal Planning: Initial Results". *Workshop on Learning and Planning in Markov Processes – Advances and Challenges, at AAAI.* San Jose, CA, USA. July 2004.

33. Pedro Domingos, Yeuhi Abe, Corin Anderson, AnHai Doan, Dieter Fox, Alon Halevy, Geoff Hulten, Henry Kautz, Tessa Lau, Lin Liao, Jayant Madhavan, Mausam, Don Patterson, Matthew Richardson, Sumit Sanghai, Daniel Weld, Steve Wolfman. "Research on Statistical Relational Learning at the University of Washington". *Workshop on Learning Statistical Models from Relational Data, at IJCAI. Acapulco, Mexico.* August 2003.

34. Mausam, Daniel S. Weld. "Solving Relational MDPs with First-Order Machine Learning". *Workshop on Planning under Uncertainty and Incomplete Information, at ICAPS*. Trento, Italy. June 2003.

Technical Reports and Articles

- Christopher H. Lin, Mausam, Daniel S. Weld. "A Programming Language With a POMDP Inside". ArXiv:1608.08724 [cs.AI]. August 2016.

- Mausam. "Artificial Intelligence – Trends and Implications to the Society". Delta (IET Newsletter, Delhi Network). February 2007.

- Mausam. "A Comparison of Hierarchical Reinforcement Learning Techniques" Generals Exam. University of Washington. 2005.

- Mausam, Daniel S. Weld. "Solving Concurrent Markov Decision Processes" UW-CSE-TR-04-03-03. University of Washington. 2004.

- Mausam, Gaurav Singh Kushwaha. "Cache Efficiency and Sorting Algorithms" B.Tech project, Indian Institute of Technology. 2001.

Honors and Academic Achievements

- Young Faculty Research Fellowship awarded under the Visvesvaraya PhD scheme for Electronics & IT by Govt. of India (2016).

- AAAI Senior Member status, a recognition for long-term participation in AAAI and distinction in the field of artificial intelligence (2015).

- Teaching Excellence Award at IIT Delhi for Spring 2014 semester.

- Runners-up in International Probabilistic Planning Competition 2011, MDP Track, to our planner *Glutton*. Team: Andrey Kolobov, Peng Dai, Mausam, Daniel S. Weld.

- Honorable Mention for the 2008 ICAPS Best Dissertation Award for the best dissertation in planning and scheduling for the year 2007.

- Recipient of the silver medal for being first rank in the computer science department at IIT in the year 2000-2001.

- Recipient of Shashank Vikram Garg Award for the Best All Rounder in the batch at IIT for the year 1999-2000.

- Recipient of Merit Award in all eight semesters, awarded by IIT Delhi for being the top 7% according to the semester GPA.(1997-2000)

- Recipient of National Talent Search Examination Scholarship, awarded by National Council for Educational research and Training, India.(1995)

- Recipient of National Science Talent Search Examination Scholarship (96-97), organised by Universal Trust. (All India 2nd Rank).

- Recipient of National Science Talent Search Examination Scholarship (95-96), organised by Universal Trust. (All India 2nd Rank).

- CBSE (Central Board of Secondary Education) Merit Scholarship Holder for being in the top 0.1% in senior High School examination. (1997).

- Secured 11th rank out of about 150,000 (All India) in IIT Entrance Examination, 7th rank (All India) in Roorkee Entrance Examination. (1997)

Professional Service and other Activities

- **Member, Executive Council** Association for Advancement of Artificial Intelligence (AAAI).

- **Member, Advisory Board** International Joint Conference on Artificial Intelligence (IJCAI'16).

- **Program Chair** International Conference on Automated Planning and Scheduling (ICAPS'17), IKDD Conference on Data Sciences (CoDS'16).

- **Track Chair** Special track on AI & The Web at International Joint Conference on Artificial Intelligence (IJCAI'16).

- **Tutorial Chair** AAAI Conference on Artificial Intelligence (AAAI'16, AAAI'15).

- **Local Chair** AAAI Conference on Artificial Intelligence (AAAI'13), Symposium on Combinatorial Search (SoCS'13), Symposium on Abstraction, Reformulation, and Approximation (SARA'13).

- **Area Chair** Information Extraction and Text Mining Track at International Joint Conference on Natural Language Processing (IJCNLP'17), Information Extraction, Information Retrieval, and Question Answering Track at Conference on Empirical Methods in Natural Language Processing (EMNLP'17), IE, QA, Text Mining and Applications Track at Annual Meeting of the Association for Computational Linguistics (ACL'17), Web Mining & Content Analysis Track at World Wide Web Conference (WWW'17), Information Retrieval, Information Extraction & Question Answering Track at International Conference on Computational Linguistics (COLING'16), Information Extraction and Text Mining Track at Annual Meeting of the Association for Computational Linguistics (ACL'15), Information Extraction Track at Empirical Methods in Natural Language Processing (EMNLP'13).

- **Senior Program Committee Member** Conference on Human Computation & Crowdsourcing (HCOMP'16), International Joint Conference on Artificial Intelligence (IJCAI'15, IJCAI'13, IJCAI'11), International Conference on Automated Planning and Scheduling (ICAPS'13), AAAI Conference on Artificial Intelligence (AAAI'18, AAAI'11, AAAI'10).

- **Program Committee Member** Conference of the North American Chapter of the Association for Computational Linguistics (NAACL'16), International Conference on Web Search and Data Mining (WSDM'15), AAAI Conference on Artificial Intelligence (AAAI'14, AAAI'08, AAAI'05), Conference on Human Computation & Crowdsourcing (HCOMP'15, HCOMP'14, HCOMP'13), International World Wide Web Conference (WWW'14), European Conference on Artificial Intelligence (ECAI'14), Conference on Knowledge Discovery and Data Mining (KDD'13), Empirical Methods in Natural Language Processing (EMNLP'12, EMNLP'10), European Chapter of the Association for Computational Linguistics (EACL'12), International Conference on Automated Planning and Scheduling (ICAPS'11, ICAPS'10, ICAPS'09, ICAPS'08, ICAPS'07), Annual Meeting of the Association for Computational Linguistics (ACL'11), International Joint Conference on Artificial Intelligence (IJCAI'09), International Conference on Automated Planning Scheduling Journal Track (ICAPS'15), ACM International Conference on Information and Knowledge Management Demos Track (CIKM'13), Workshop on Graph-based Methods for Natural Language Processing at EMNLP'13, Workshop on Information Extraction & Entity Analytics on Social Media Data at COLING'12, Workshop on International Planning Competition at ICAPS'12, AAAI Student Abstracts (AAAI'11, AAAI'13), Workshop on Foundations and Methodologies for Learning by Reading at IJCAI'11, Workshop on Decision Making in Partially Observable, Uncertain Worlds at IJCAI'11, Workshop on Planning and Scheduling under Uncertainty at ICAPS'10, Workshop on Planning and Learning in Apriori Unknown or Dynamic Domains at IJCAI'05.

- **Journal Editorial Board** Journal of Artificial Intelligence Research (JAIR), Transactions of the Association for Computational Linguistics (TACL).

- **Reviewer** Journal of Artificial Intelligence Research (JAIR), Journal of Machine Learning Research (JMLR), Artificial Intelligence Journal (AIJ), Autonomous Agents and Multi Agent Systems (AAMAS), ACM Transactions on Intelligent Systems and Technology (ACM TIST), IEEE Transactions on Knowledge and Data Engineering (TKDE), Journal of Web Semantics (JWS), Knowledge and Information Systems (KAIS), Pattern Recognition Letters (PRL), Journal of Mechanical Design, Distributed and Parallel Databases (DAPD), ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'13), Conference of the North American Chapter of the Association for Computational Linguistics (NAACL'10), International Conference on Computational Linguistics (COLING'10), International Joint Conference on Artificial Intelligence (IJCAI'05, IJCAI'07), International Conference on Automated Planning and Scheduling (ICAPS'06), Ubiquitous Computing (Ubi-Comp'07).

- **Panel Reviewer** National Science Foundation, Division of Information & Intelligent Systems (2013, 2010, 2008), Israel Science Foundation (2015), United States-Israel Binational Science Foundation (2015).

- **Award Selection Committee** IJCAI Best Paper Award (2015), ICAPS Most Influential Paper (10 years older) and Best Dissertation Awards (2011).

- **Panel Member** Panel on Best Reviewing Practices at IJCAI'16, Panel on Big Data at BDA'14, Panel on How Should Academia Handle Data Science at CoDS'14.

- **Session Chair** International Conference on Automated Planning and Scheduling (ICAPS'17), International Joint Conference on Artificial Intelligence (IJCAI'16), Conference on Empirical Methods in Natural Language Processing (EMNLP'12), AAAI Conference on Artificial Intelligence (AAAI'11, AAAI'10), Workshop on Foundations and Methodology for Learning by Reading at NAACL'10.

- **Mentor** AAAI'16 Doctoral Consortium, AAAI'13 Student Abstracts, ICAPS'10 Doctoral Consortium.

- **Member** AAAI (2003-lifetime), ACL (2008-present), ACM India (2014-present).

Colloquia and Invited Talks

- Refresher Course on Cybersecurity, IIT Delhi, New Delhi (February 2017) *An Introduction to Natural Language Processing.*

- IEEE International Conference on Computing, Analytics and Security Trends, Pune (December 2016) *The Open Information Extraction Project*

- Center for Artificial Intelligence and Robotics, Bangalore (December 2016) *Open Information Extraction.*

- NCERT Nurturance Programme for National Talent Search Awardees, New Delhi (December 2016) *An Introduction to Artificial Intelligence.*

- Samsung India Research Network Meeting on Intelligence, Bangalore (September 2016) *Open Information Extraction Systems and Downstream Applications.*

- Delhi Library Network and India International Center, New Delhi (September 2016) *Crowdsourcing: An Overview.*

- Microsoft Machine Learning and Data Science Conference, Bangalore (August 2016) *Open IE and Other NLP Research at IIT Delhi.*

- Early Career Spotlight Track at IJCAI'16, New York City (July 2016) *Open Information Extraction Systems and Downstream Applications.*

- Closing the Cognitive Loop: Workshop on Knowledge, Data, and Systems for Cognitive Computing at IJCAI'16, New York City (July 2016) *Intelligent Control for Crowdsourcing Applications.*

- Bloomberg L.P., New York City (July 2016) *The Open Information Extraction Project*.

- IBM T.J. Watson Research Center, Yorktown Heights (July 2016) *Open Information Extraction Systems and Downstream Applications*.

- Google Natural Language Understanding Workshop, London (May 2016) *Extracting, Inferring & Using Knowledge-Bases*.

- TACTiCS Analytics Symposium, Mumbai (January 2016) *Crowdsourcing for Large Scale Labeling and Learning*.

- Amazon Inc., Bangalore (December 2015) *The Open Information Extraction Project*.

- Xerox Research Winter School on Machine Learning, Bangalore (December 2015) *Applications of ML in Crowdsourcing*.

- IBM Collaborative Academia Research Exchange, New Delhi (October 2015) *The Open Information Extraction Project*.

- MSR India Workshop on Extreme Classification, Bangalore (August 2015) *AI-ML and Crowdsourcing*.

- Allen Institute for Artificial Intelligence, Seattle (July 2015) *Extraction, Inference, and More*.

- CrowdML - ICML'15 Workshop on Crowdsourcing and Machine Learning, Lille, France (July 2015) *Intelligent Control meets Crowdsourcing*.

- Google, Mountain View (June 2015) *Open IE for Downstream NLP Applications*.

- NMI Workshop on Recent Advances in Reinforcement Learning, Chennai (March 2015) *Goal-Directed MDPs: Models and Algorithms*.

- FlipKart, Bangalore (March 2015) *Intelligent Control meets Crowdsourcing*.

- ISSA-DRDO, Delhi, CEP Course on Combat Modeling and Simulation, New Delhi (December 2014) *Automated Planning with MDPs in Uncertain Environments*.

- Indo-Australian Meeting on Modelling Large-scale Linked Data, New Delhi (November 2014) *Open IE for Relation Extraction*.

- Columbia University, New York (October 2014) *Coherent, Large-Scale Multi-Document Summarization*.

- University of Pennsylvania, Philadelphia (October 2014) *Decision-Theoretic Crowdsourcing*.

- Opera Solutions, Noida (April 2014) *Open Information Extraction*.

- TACTiCS Analytics Symposium, Delhi (March 2014) *Open Information Extraction*.

- Tata Consultancy Services Innovation Labs, Gurgaon (February 2014) *Recent Advances in Open Information Extraction*.

- IBM India Research Labs, Delhi (November 2013) *Recent Advances in Open Information Extraction*.

- Indian Institute of Technology, Delhi, Computer Science Colloquium (October 2013) *Recent Advances in Open Information Extraction*.

- Yahoo!, Sunnyvale (August 2013) *Coherent Multi-Document Summarization at Scale*.

- Google, Mountain View (August 2013) *Large Scale Information Systems: Extraction, Commonsense Knowledge, and Summarization*.

- Facebook, Menlo Park (August 2013) *Decision-Theoretic Crowdsourcing*.

- 8th Barbados Workshop on Reinforcement Learning, Barbados (April 2013) *Automated Basis Function for Goal-Directed MDPs*.

- Oregon State University, Corvallis, AI Seminar (February 2013) *Decision-Theoretic Crowdsourcing*.

- University of Oregon, Eugene, Computer and Information Science Colloquium (February 2013) *Recent Advances in Open Information Extraction*.

- University of Washington, Seattle, Industrial & Systems Engineering Colloquium (November 2012) *A Crowdsourcing Agent based on POMDPs*.

- University of Maryland, College Park, CLIP Colloquium (October 2012) *Recent Advances in Open Information Extraction*.

- Wavii Inc., Seattle (September 2012) *Open Information Extraction: Recent Advances and Future Directions*.

- Indian Institute of Science, Bangalore, Computer Science Colloquium (September 2012) *Decision-Theoretic Crowdsourcing*.

- Microsoft Research, Bangalore (September 2012), *Decision-Theoretic Crowdsourcing*.

- Indian Institute of Technology, Delhi, Computer Science Colloquium (September 2012) *Decision-Theoretic Crowdsourcing*.

- Indian Institute of Technology, Kanpur, Computer Science Colloquium (September 2012) *Decision-Theoretic Crowdsourcing*.

- Indian Institute of Technology, Bombay, Computer Science Colloquium (August 2012) *Decision-Theoretic Crowdsourcing*.

- Indian Institute of Technology, Madras, Computer Science Colloquium (August 2012) *Open Information Extraction*.

- Microsoft Research, Redmond (August 2012) *Open Information Extraction: Recent Advances and Future Directions*.

- UW-MSR Summer Institute on Crowdsourcing Personalized Online Education (July 2012) *Towards an AI Agent for Online Education*.

- Indian Institute of Technology, Madras, Computer Science Colloquium (April 2012) *Human Intelligence needs Artificial Intelligence*.

- Google, Zurich (June 2011) *Automatic Generation of Commonsense Knowledge*.

- Amazon Inc., Seattle (April 2011) *Artificial Intelligence for Artificial Artificial Intelligence*.

- Indian Institute of Technology, Bombay (October 2010) *Automatic Generation of Commonsense Knowledge*.

- Tata Consultancy Services Innovations Lab (October 2010) *Automatic Generation of Commonsense Knowledge*.

- Indraprastha Institute of Information Technology, Delhi, Computer Science Colloquium (September 2010) *Compiling a Massive, Multilingual Dictionary via Probabilistic Inference*.

- IBM India Research Labs, Delhi (September 2010) *Compiling a Massive, Multilingual Dictionary via Probabilistic Inference*.

- Tata Consultancy Services Innovations Lab (October 2010) *Compiling a Massive, Multilingual Dictionary via Probabilistic Inference*.

- Indian Institute of Technology, Delhi, Computer Science Colloquium (August 2010) *Scaling Probabilistic Planning*.

- Indian Institute of Technology, Bombay, Computer Science Colloquium (March 2008) *Towards Panlingual Translation: supporting translation across all languages*.

- Indian Institute of Technology, Delhi, Computer Science Colloquium (February 2008) *Towards Panlingual Translation: supporting translation across all languages*.

- University of Washington, Seattle, Computer Science Colloquium (February 2008) *Towards Panlingual Translation: supporting translation across all languages*.

- University of Washington, Seattle, Computer Science Colloquium (May 2007) *Beyond Markov Decision Processes for Stochastic Planning*.

- Palo Alto Research Center, Palo Alto (April 2007) *Beyond Markov Decision Processes for Stochastic Planning*.

- SRI International, Menlo Park (April 2007) *Beyond Markov Decision Processes for Stochastic Planning*.

- Microsoft Research, Redmond (March 2007) *Beyond Markov Decision Processes for Stochastic Planning*.

- Intel Research Laboratory, Seattle (March 2007) *Beyond Markov Decision Processes for Stochastic Planning*.

- Institution of Engineering and Technology (UK), Delhi Network (January 2007) *Artificial Intelligence – Trends and Implications to the Society*.

- Microsoft Research, Redmond (November 2006) *Solving Continuous State Markov Decision Processes*.

- Intel Research Laboratory, Seattle (August 2006) *Planning with Uncertain Durative Actions*.

- NASA Ames Research Institute, Mountain View (December 2004) *Concurrent Markov Decision Processes*.

- Indian Agricultural Statistics Research Institute, Delhi (February 2004) *Concurrent Markov Decision Processes*.

- Indian Institute of Technology, Delhi (February 2004) *Concurrent Markov Decision Processes*.

Other Pursuits

- *Indian Classical Musician:* Semi-professional harmonium player for accompanying Hindustani classical vocalists.

- *Musician for Popular Music:* Harmonium and keyboard player for amateur bands performing popular film music, light classical and folk genres.

- *Cinema Aficionado:* Avid movie-buff and enjoys watching world and arthouse cinema.

- *Non-profit Activities:* Affilated with art-related non-profit organizations: SPIC MACAY in Delhi (1997-2001), Pratidhwani in Seattle (2004-2013), and Ragamala in Seattle (2008-2013).

- *Collector:* Collects non-commercial recordings of Hindustani classical vocal music.