

Daniel Khashabi

University of Pennsylvania
Philadelphia, PA, USA 19104
Last Update: April 20, 2018

Cell: +1 (217) 979-3565
E-mail: danielkh@cis.upenn.edu
<http://www.cis.upenn.edu/~danielkh>

Research Theme

Computational (Artificial) Intelligence, through the Natural Language Understanding lens.

Education

- 2012–2018 Ph.D., Computer Science, University of Pennsylvania (2017-2018)
University of Illinois, Urbana-Champaign (2012-2017)
Thesis Title: Reasoning-Driven Question Answering
Advisor: Professor Dan Roth
- 2008–2012 B.Sc., Electrical Engineering, Amirkabir University of Tech. (Tehran Polytechnic)
Advisor: Professor Hamid Sheikhzadeh
- 2010–2012 Minor, Computer Science, Amirkabir University of Tech. (Tehran Polytechnic)
- 2003–2008 Diploma in Math and Physics, Shahid Beheshti High School, Maragheh, Iran
National Organization For Development of Exceptional Talents (NODET)

Work Positions

- 2017–2018 Research Assistant, University of Pennsylvania, PA
- 2012–2017 Research Assistant, University of Illinois, Urbana-Champaign, IL
- Summer, 2015 Research Intern, Allen Institute for Artificial Intelligence (AI2), Seattle, WA
- Summer, 2016 Research Intern, Allen Institute for Artificial Intelligence (AI2), Seattle, WA
- Summer, 2014 Research Intern, Microsoft Research, Redmond, WA
- Summer, 2013 Research Intern, Microsoft Research, Cambridge, UK
- Summer, 2011 Research Intern, Media Processing Lab, Tehran Polytechnic

Teaching

- Fall 2018 Guest Lecturer (2 lectures): CS446: Intro to Neural Networks - Instructor: Prof. Dan Roth
- Spring, 2016 Guest Lecturer (1 lecture): CS446: Intro to Neural Networks - Instructor: Prof. Dan Roth
- Fall, 2015 Guest Lecturer (2 lectures): CS446: Intro to Neural Networks - Instructor: Prof. Dan Roth

Teaching Assistant Positions

| | |
|--------------|--|
| Fall, 2015 | CS446: Machine Learning - Instructor: Prof. Dan Roth |
| Spring, 2013 | CS473: Fundamental Algorithms - Instructor: Prof. Jeff Erickson |
| Spring, 2012 | CS473: Fundamental Algorithms - Instructor: Prof. S. Har-Peled, and Prof. A. Kolla |
| Spring, 2012 | Digital Signal Processing - Instructor: Prof. Hamid Sheikhzadeh Nadjar |
| Spring, 2012 | Probability and Statistics (I) - Instructor: Prof. Gholamreza Moradi |
| Fall, 2011 | Foundations of Programming I (C++) - Instructor: Prof. Bahram Taheri |
| Spring, 2011 | Foundations of Programming II (C++) - Instructor: Prof. Bahram Taheri |

Supervision

| | |
|-----------|---|
| 2016-? | Ben Zhou, Project: Unsupervised Entity Typing, Univ. of Illinois, Urbana-Champaign |
| 2017-2018 | Angela Sun, Salar Kohari, Zheng Tian, Project: Senior Thesis, Univ. of Pennsylvania |
| 2016-2017 | Guanheng Luo, Project: CogComp-NLPy , University of Illinois, Urbana-Champaign |
| 2014-2015 | Josh Camp, Paul Gibbons, Ryan Kelch, Deepak Shine, Dhruv Vajpeyi, Project: Open-Eval (Senior Thesis), University of Illinois, Urbana-Champaign |

Publications

Journals

- [1] Daniel Khashabi, Sebastian Nowozin, Jeremy Jancsary, and Andrew W Fitzgibbon. "Joint Demosaicing and Denoising via Learned Nonparametric Random Fields". In: *IEEE Transactions on Image Processing* 23.12 (Dec. 2014), pp. 4968–4981. ISSN: 1057-7149. DOI: [10.1109/TIP.2014.2359774](https://doi.org/10.1109/TIP.2014.2359774).

Peer-reviewed Conference Proceedings

- [2] Daniel Khashabi, Snigdha Chaturvedi, Michael Roth, Shyam Upadhyay, and Dan Roth. "Looking Beyond the Surface: A Challenge Set for Reading Comprehension over Multiple Sentences". In: *Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*. 2018. URL: <http://cogcomp.org/papers/2018-MultiRC-NAACL.pdf>.
- [3] Daniel Khashabi et al. "CogCompNLP: Your Swiss Army Knife for NLP". In: *11th Language Resources and Evaluation Conference*. 2018. URL: http://cogcomp.org/papers/2018_lrec_cogcompnlp.pdf.
- [4] Daniel Khashabi, Tushar Khot, Ashish Sabharwal, and Dan Roth. "Question Answering as Global Reasoning over Semantic Abstractions". In: *Proceedings of The Thirty-Second AAAI Conference on Artificial Intelligence, AAAI 2018*. 2018. URL: http://cogcomp.org/page/publication_view/824.
- [5] Daniel Khashabi, Tushar Khot, Ashish Sabharwal, and Dan Roth. "Learning What is Essential in Questions". In: *Proceedings of the 21st Conference on Computational Natural Language Learning (CoNLL 2017)*. Vancouver, Canada: Association for Computational Linguistics, Aug. 2017, pp. 80–89. URL: <http://aclweb.org/anthology/K17-1010>.
- [6] Parisa Kordjamshidi, Daniel Khashabi, Christos Christodoulopoulos, Bhargav Mangipudi, Sameer Singh, and Dan Roth. "Better call saul: Flexible programming for learning and inference in nlp". In: *Proceedings of COLING 2016, the 26th International Conference on Computational Linguistics: Technical Papers*. 2016, pp. 3030–3040. URL: <http://cogcomp.org/papers/KKCMSR16.pdf>.
- [7] Daniel Khashabi, Tushar Khot, Ashish Sabharwal, Peter Clark, Oren Etzioni, and Dan Roth. "Question Answering via Integer Programming over Semi-Structured Knowledge". In: *Proceedings of the Twenty-Fifth International Joint Conference on Artificial Intelligence, IJCAI 2016*. 2016, pp. 1145–1152. URL: <http://www.ijcai.org/Abstract/16/166>.

- [8] Mark Sammons, Christos Christodoulopoulos, Parisa Kordjamshidi, Daniel Khashabi, Vivek Srikumar, and Dan Roth. "EDISON: Feature Extraction for NLP, Simplified". In: *Proceedings of the Tenth International Conference on Language Resources and Evaluation (LREC 2016)*. Ed. by Nicoletta Calzolari (Conference Chair) et al. Portorož, Slovenia: European Language Resources Association (ELRA), May 2016. ISBN: 978-2-9517408-9-1. URL: <http://cogcomp.org/papers/SCKKSVBWR16.pdf>.
- [9] Peter Clark, Oren Etzioni, Tushar Khot, Ashish Sabharwal, Oyvind Tafjord, Peter D. Turney, and Daniel Khashabi. "Combining Retrieval, Statistics, and Inference to Answer Elementary Science Questions". In: *Proceedings of the Thirtieth AAAI Conference on Artificial Intelligence*. 2016, pp. 2580–2586. URL: <http://www.aaai.org/ocs/index.php/AAAI/AAAI16/paper/view/11963>.
- [10] Kent Quanrud and Daniel Khashabi. "Online Learning with Adversarial Delays". In: *Proceedings of the 28th International Conference on Neural Information Processing Systems - Volume 1*. NIPS'15. Montreal, Canada: MIT Press, 2015, pp. 1270–1278. URL: <http://dl.acm.org/citation.cfm?id=2969239.2969381>.
- [11] Haoruo Peng, Daniel Khashabi, and Dan Roth. "Solving Hard Coreference Problems". In: *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*. Denver, Colorado: Association for Computational Linguistics, May 2015, pp. 809–819. URL: <http://www.aclweb.org/anthology/N15-1082>.
- [12] Mohammad Nokhbeh-Zaeem, Daniel Khashabi, Heidar Ali Talebi, Shiva Navabi, and Faramarz Vaziri. "Adaptive tiled Neural Networks". In: *Systems, Man, and Cybernetics (SMC), 2011 IEEE International Conference on*. IEEE, 2011, pp. 2543–2548. URL: <https://ieeexplore.ieee.org/document/6084059/>.

Peer-reviewed Workshop Proceedings

- [13] Parisa Kordjamshidi, Sameer Singh, Daniel Khashabi, Christos Christodoulopoulos, Mark Sammons, Saurabh Sinha, and Dan Roth. "Relational Learning and Feature Extraction by Querying over Heterogeneous Information Networks". In: *Seventh International Workshop on Statistical Relational AI (StarAI)*. 2017. URL: http://cogcomp.org/papers/2017_saul_relational_learning_starai.pdf.
- [14] Zhiye Fei, Daniel Khashabi, Haoruo Peng, Hao Wu, and Dan Roth. "Illinois-Profiler: Knowledge Schemas at Scale". In: *Workshop on Cognitive Knowledge Acquisition and Applications (Cognitum)* (2015). URL: http://www.cis.upenn.edu/~danielkh/files/2014_2015_profiler/profiler_ijcai.pdf.

Technical reports/Pre-prints

- [15] Daniel Khashabi. *Knowledge Representation: How far we have come?* Tech. rep. University of Illinois, Urbana-Champaign, 2015. URL: http://www.cis.upenn.edu/~danielkh/files/2015_knowledge_representation/knowledge_representation_writeup.pdf.
- [16] Daniel Khashabi, Jeffrey Yufei Liu, John Wieting, and Feng Liang. *Clustering With Side Information: From a Probabilistic Model to a Deterministic Algorithm*. Tech. rep. 2015. URL: <https://arxiv.org/abs/1508.06235>.
- [17] Daniel Khashabi, Christopher JC Burges, and Erin Renshaw Andrzej Pastusiak. *Some Notes on Modeling the Semantic Flow of Narratives*. Tech. rep. 2014. URL: http://www.cis.upenn.edu/~danielkh/files/2014_Semantics_MCTest/mctest_experiments.pdf.
- [18] Daniel Khashabi. *On the Recursive Neural Networks for Relation Extraction and Entity Recognition*. Tech. rep. 2013. URL: <https://www.ideals.illinois.edu/handle/2142/46992>.
- [19] Daniel Khashabi, Mojtaba Ziyadi, and Feng Liang. *Heteroscedastic relevance vector machine*. Tech. rep. 2013. URL: <https://arxiv.org/abs/1301.2015>.
- [20] Masoud Amoozgar, Daniel Khashabi, Milad Heydarian, Mohammad Nokhbeh, and Saeed Bagheri Shouraki. *Generating Motion Patterns Using Evolutionary Computation in Digital Soccer*. Tech. rep. 2012. URL: <https://arxiv.org/pdf/1212.6216.pdf>.
- [21] Meysam Shahrabaf and Daniel Khashabi. *Facial Feature Tracking, Extraction and Reduction*. Tech. rep. Amirkabir University of Technology(Tehran Polytechnic), 2011. URL: http://www.cis.upenn.edu/~danielkh/files/2011_RVM_Facial_Feature/2011_internship_report.pdf.
- [22] Mohammad Nokhbeh and Daniel Khashabi. *Modelling and Control of Ball-Plate System*. Tech. rep. Amirkabir University of Technology(Tehran Polytechnic), 2011. URL: http://www.cis.upenn.edu/~danielkh/files/2011_LinearControl/16.pdf.
- [23] Mehrab Norouzitallab et al. *Nemesis Team Description 2009*. Tech. rep. URL: <http://ishiilab.jp/member/meshgi-k/files/robocup/tdp-nemesis-2010-long.pdf>.

Patents

- [24] Reinhard Sebastian Bernhard Nowozin, Danyal Khashabi, Jeremy Martin Jancsary, Bruce Justin Lindbloom, and Andrew William Fitzgibbon. *Image demosaicing*. US Patent 9,344,690. May 2016.

Professional Activities

- Judge, Milken-Penn GSE Education Business Plan Competition, 2018.
- Program Committee (PC): AAAI(demos)'17, CoNLL'17, AAAI(demos)'18, AAAI'18, LREC'18, NAACL'18, COLING'18.
- Reviewer, CoNLL'16, NIPS'16, ECML-PKDD'18
- Sub-reviewer, ECAI'14, ACL'15, AAAI'15
- Organizer, Artificial Intelligence and Information Systems (AIIS) seminars at UIUC, 2014–2016
- Organizer, AI reading group at UIUC, 2013–2015
- Technical Committee (TC) member, AUTCUP'09, 2D Soccer Simulation League Oct 7-9, 2009
- Member, Penn Wharton Venture Initiation Program (VIP-C), 2018
- Member, Association for Computational Linguistics (ACL), 2017-now
- Student Member, Institute of Electrical and Electronics Engineers (IEEE), 2011-now