Daniel Khashabi

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Research Theme

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

Education

2012–2019	*Ph.D. in Computer Science*
	University of Pennsylvania (2017-2019)
	University of Illinois, Urbana-Champaign (2012-2017)
	Advisor: Prof. Dan Roth
	Thesis title: *Reasoning-Driven Question-Answering for Natural Language Understanding*
2008–2012	*B.Sc. in Electrical Engineering*
	Minor in Computer Science (2010-2012)
	Amirkabir University of Technology (Tehran Polytechnic)
	Advisor: Prof. Hamid Sheikhzadeh
2003–2008	*Diploma in Math and Physics*, Shahid Beheshti High School, Maragheh, Iran
	National Organization For Development of Exceptional Talents (NODET)

Research Positions

2019-now	*Young Investigator*, Allen Institute for Artificial Intelligence, Seattle, WA.
2019	*Post-doctoral fellow*, University of Pennsylvania, Philadelphia, PA
2017–2019	*Research Assistant*, University of Pennsylvania, Philadelphia, PA
2012–2017	*Research Assistant*, University of Illinois, Urbana-Champaign, IL
Summer, 2016	*Research Intern*, Allen Institute for Artificial Intelligence (AI2), Seattle, WA
Summer, 2015	*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, Tehran, Iran

Publications

Peer-reviewed Publications

* *Venues are topically color-coded (NLP, AI, Machine Learning, Vision). Top tier venues are indicated with* **bold**.

[1] B. Zhou, D. Khashabi, Q. Ning, and D. Roth.
""Going on a vacation" takes longer than "Going for a walk": A Study of Temporal Commonsense Understanding".
In: *Conference on Empirical Methods in Natural Language Processing (**EMNLP**)*.
2019.

[2] S. Chen, D. Khashabi, C. Callison-Burch, and D. Roth.
"PerspectroScope: A Window to the World of Diverse Perspectives".
In: *Annual Meeting of the Association for Computational Linguistics (**ACL**) - Demonstrations*.
2019.

[3] S. Chen, D. Khashabi, W. Yin, C. Callison-Burch, and D. Roth.
"Seeing Things from a Different Angle:Discovering Diverse Perspectives about Claims".
In: *Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**)*.
2019.

[4] B. Zhou, D. Khashabi, C.-T. Tsai, and D. Roth.
"Zero-Shot Open Entity Typing as Type-Compatible Grounding".
In: *Conference on Empirical Methods in Natural Language Processing (**EMNLP**)*.
2018.

[5] D. Khashabi, S. Chaturvedi, M. Roth, S. Upadhyay, and D. 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.

[6] D. Khashabi et al.
"CogCompNLP: Your Swiss Army Knife for NLP".
In: *11th Language Resources and Evaluation Conference (LREC)*.
2018.

[7] D. Khashabi, T. Khot, A. Sabharwal, and D. Roth.
"Question Answering as Global Reasoning over Semantic Abstractions".
In: *Proceedings of The Thirty-Second Conference on Artificial Intelligence (**AAAI**)*.
2018.

[8] D. Khashabi, T. Khot, A. Sabharwal, and D. Roth.
"Learning What is Essential in Questions".
In: *Proceedings of the 21st Conference on Computational Natural Language Learning (CoNLL)*.
2017.

[9] P. Kordjamshidi, D. Khashabi, C. Christodoulopoulos, B. Mangipudi, S. Singh, and D. Roth.
"Better call saul: Flexible programming for learning and inference in NLP".
In: *Proceedings of the 26th International Conference on Computational Linguistics (COLING)*.
2016.

[10] D. Khashabi, T. Khot, A. Sabharwal, P. Clark, O. Etzioni, and D. Roth.
"Question Answering via Integer Programming over Semi-Structured Knowledge".
In: *Proceedings of the Twenty-Fifth International Joint Conference on Artificial Intelligence (**IJCAI**)*.
2016.

[11] M. Sammons, C. Christodoulopoulos, P. Kordjamshidi, D. Khashabi, V. Srikumar, and D. Roth.
"EDISON: Feature Extraction for NLP, Simplified".
In: *Proceedings of the Tenth International Conference on Language Resources and Evaluation (LREC)*.
2016.

[12] P. Clark, O. Etzioni, T. Khot, A. Sabharwal, O. Tafjord, P. D. Turney, and D. Khashabi.

"Combining Retrieval, Statistics, and Inference to Answer Elementary Science Questions".
In: *Proceedings of the Thirtieth Conference on Artificial Intelligence (**AAAI**)*.
2016.

[13] K. Quanrud and D. Khashabi.
"Online Learning with Adversarial Delays".
In: *Proceedings of the 28th International Conference on Neural Information Processing Systems (**NeurIPS**)*.
2015.

[14] H. Peng, D. Khashabi, and D. Roth.
"Solving Hard Coreference Problems".
In: *Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (**NAACL**)*.
2015.

[15] D. Khashabi, S. Nowozin, J. Jancsary, and A. W. Fitzgibbon.
"Joint Demosaicing and Denoising via Learned Nonparametric Random Fields".
In: *IEEE Transactions on Image Processing (**TIP**)*.
2014.

[16] M. Nokhbeh-Zaeem, D. Khashabi, H. A. Talebi, S. Navabi, and F. Vaziri.
"Adaptive tiled Neural Networks".
In: *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*.
2011.

Peer-reviewed Workshop Proceedings

[17] P. Kordjamshidi, S. Singh, D. Khashabi, C. Christodoulopoulos, M. Sammons, S. Sinha, and D. Roth.
"Relational Learning and Feature Extraction by Querying over Heterogeneous Information Networks".
In: *Seventh International Workshop on Statistical Relational AI (StarAI)*.
2017.

[18] Z. Fei, D. Khashabi, H. Peng, H. Wu, and D. Roth.
"Illinois-Profiler: Knowledge Schemas at Scale".
In: *Workshop on Cognitive Knowledge Acquisition and Applications (Cognitum)*.
2015.

Patents

[19] R. S. B. Nowozin, D. Khashabi, J. M. Jancsary, B. J. Lindbloom, and A. W. Fitzgibbon.
Image demosaicing.
US Patent 9,344,690.
May 2016.

Mentorship

2017-2018	Angela Sun, Salaar Kohari, Zheng Tian, Senior Project: *CoLabel*, 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 Project), University of Illinois, Urbana-Champaign
2013-2014	Tianxiao Zhang, *Experiments on Recursive Neural Networks for Textual Entailment*

Invited Talks

- *"In Pursuit of the Holy Grail of Natural Language Understanding: Past, Present and Future"*
  - The Third Workshop on Progress Towards the Holy Grail, Conference on Principles and Practice of Constraint Programming (CP), 2019.
- *"Natural Language Understanding with Indirect Supervision"*
  - University of Arizona, 2019.
  - University of Maryland - Baltimore County, 2019.
  - Carnegie Mellon University - Language Technologies Institute, 2019.
  - Allen Institute for Artificial Intelligence, 2019.
- *"Reasoning-Driven Question Answering"*
  - Georgetown NLP seminar, 2018.
  - Stanford NLP seminar, 2018.
  - Yale NLP seminar, 2018.
- *"Question Answering as Global Reasoning over Semantic Abstractions"*
  - New York University, NLP Seminar, 2018.
  - Mid-Atlantic Student Colloquium on Speech, Language and Learning, 2018.
- *"Question Answering via Integer Programming over Semi-Structured Knowledge"*
  - Midwest Speech and Language Days, TTIC, 2017.
  - Microsoft, Redmond, 2016.

Teaching

As a guest lecturer

Fall 2018	*Machine Learning* - Instructor: Prof. Dan Roth
Spring 2018	*Machine Learning* - Instructor: Prof. Dan Roth
Spring, 2016	*Machine Learning* - Instructor: Prof. Dan Roth
Fall, 2015	*Machine Learning* - Instructor: Prof. Dan Roth

As a teaching assistant

Fall, 2015	*Machine Learning* - Instructor: Prof. Dan Roth
Spring, 2013	*Fundamental Algorithms* - Instructor: Prof. Jeff Erickson
Spring, 2012	*Fundamental Algorithms* - Instructor: Prof. Sariel Har-Peled, and Prof. Alexandra 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

Community Involvement and Outreach

- *Co-Chair*:
  2019 Student Research Workshop, ACL.
- *Area Chair*:
  2019 ACL, EMNLP.
- *Senior Program Member*:
  2020 IJCAI.
  2019 IJCAI, NourIPS, AAAI.
- *Program Committee (PC)*:
  2019 ACL, NAACL, AAAI, CoNLL.
  2018 NAACL, AAAI, COLING, LREC.
  2017 AAAI, CoNLL.
- *Technical Committee (TC)*:
  2009 AUTCUP (2D Soccer Simulation League).
- *Student Volunteer*:
  2018 NAACL.
  2016 IJCAI.
- *Organizer*:
  2014–2016 Artificial Intelligence and Information Systems (AIIS) seminars at UIUC.
  2013–2015 AI reading group at UIUC.
- *Member*:
  2018–2019 Penn/Wharton Venture Initiation Program (VIP-C).
  2017–now Association for Computational Linguistics (ACL).
  2011–now *Student Member*, Institute of Electrical and Electronics Engineers (IEEE).
- *Volunteer*:
  2019–now International Rescue Committee (SeaTac WA): helping refugees on need basis.
  2017 Tech it Out Philly: teaching basics of web-design to public high-school students.