

ALEXANDRE KLEMENTIEV

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EDUCATION

Ph.D. Computer Science, University of Illinois at Urbana-Champaign, 2009.

Title: Learning with Incidental Supervision.

Advisor: Professor Dan Roth.

Committee: Professors Dan Roth, David Forsyth, Fernando Pereira, and ChengXiang Zhai.

B.S. Computer Science, Cum Laude, Washington State University, 1996.

B.S. Physics, Cum Laude, Washington State University, 1996.

CURRENT EMPLOYMENT

Sr. Applied Science Manager and Principal Applied Scientist, *Amazon* (08/2013 - Present). Lead a research team in natural language processing and machine learning with applications in machine translation and understanding of customer-generated and literary text. Since 11/2018, an individual contributor working on improving search experience through extracting, modeling and summarizing subjective customer feedback and improving query spelling correction.

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow, *MMCI at Saarland University*, Saarbrücken, Germany (07/2011 - 07/2013). Computational semantics (with Prof. Ivan Titov).

Postdoctoral Fellow, *Center for Language and Speech Processing at Johns Hopkins University*, Baltimore, MD (11/2009 - 07/2011). Machine translation for low-resource languages (with Prof. Chris Callison-Burch).

Research Assistant, *University of Illinois at Urbana-Champaign (UIUC) Department of Computer Science*, Urbana, IL (2004 - 10/2009). Member of the Cognitive Computation Group under the direction of Prof. Dan Roth.

Summer Intern, *Microsoft Research*, Redmond, WA (Summers of 2006 and 2007). English as a Second Language grammar correction (with Dr. Michael Gamon).

Research Assistant, *UIUC Department of Computer Science and Beckman Institute*, 2002 - 2004. Computational models of the cerebellar learning and multi-sensory enhancement in the superior colliculus (with Prof. Sylvian Ray and Prof. Thomas Anastasio).

Teaching Assistant, *UIUC Department of Computer Science*, Urbana, IL, 2001 - 2005. Teaching assistant for a number of courses in the UIUC CS department. *Received several TA awards.*

Sr. Software Engineer, *Intel Corporation*, Hillsboro, OR, 1996 - 2001.

- (1998 - 2001) Member of Digital Broadcast Technologies group at Intel's Architecture Labs designing and developing an end-to-end system for scheduling and delivery of content over digital broadcast networks.
- (1996 - 1998) Videoconferencing over LAN with non-guaranteed QoS (ITU-T Recommendation H.323).

PUBLICATIONS

BOOK CHAPTER

- A. Klementiev and D. Roth. [Named entity transliteration and discovery in multilingual corpora](#). *Learning Machine Translation*, Chapter 4. MIT Press, 2008.

CONFERENCE PROCEEDINGS (REFEREED)

- L. Frermann and A. Klementiev. [Inducing Document Structure for Aspect-based Summarization](#). *In Proc. of the Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019.
- I. Titov and A. Klementiev. [Crosslingual Induction of Semantic Roles](#). *In Proc. of the Annual Meeting of the Association for Computational Linguistics (ACL)*, 2012.
- A. Klementiev, A. Irvine, C. Callison-Burch, and D. Yarowsky. [Toward Statistical Machine Translation without Parallel Corpora](#). *In Proc. of the Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, 2012.
- I. Titov and A. Klementiev. [A Bayesian Approach to Unsupervised Semantic Role Induction](#). *In Proc. of the Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, 2012.
- A. Klementiev and I. Titov and B. Bhattarai. [Inducing Crosslingual Distributed Representations of Words](#). *In Proc. of the International Conference on Computational Linguistics (COLING)*, 2012.
- I. Titov and A. Klementiev. [Semi-Supervised Semantic Role Labeling: Approaching from an Unsupervised Perspective](#). *In Proc. of the International Conference on Computational Linguistics (COLING)*, 2012.
- I. Titov and A. Klementiev. [A Bayesian Model for Unsupervised Semantic Parsing](#). *In Proc. of the Annual Meeting of the Association for Computational Linguistics (ACL)*, 2011.
- A. Irvine, C. Callison-Burch, and A. Klementiev. [Transliterating From All Languages](#). *In Proc. of the Association for Machine Translation in the Americas (AMTA)*, 2010.
- I. Titov, A. Klementiev, K. Small, and D. Roth. [Unsupervised Aggregation for Classification Problems with Large Numbers of Categories](#). *In Proc. of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2010.
- A. Klementiev, D. Roth, K. Small, and I. Titov. [Unsupervised Rank Aggregation with](#)

[Domain-Specific Expertise](#). *In Proc. of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2009.

- A. Klementiev, D. Roth, and K. Small. [Unsupervised Rank Aggregation with Distance-Based Models](#). *In Proc. of the International Conference on Machine Learning (ICML)*, 2008.
- M. Gamon, J. Gao, C. Brockett, A. Klementiev, W. B. Dolan, D. Belenko, and L. Vanderwende. [Using Contextual Speller Techniques and Language Modeling for ESL Error Correction](#). *In Proc. of the International Joint Conference on Natural Language Processing (IJCNLP)*, 2008.
- A. Klementiev, D. Roth, and K. Small. [An Unsupervised Learning Algorithm for Rank Aggregation](#). *In Proc. of the European Conference on Machine Learning (ECML)*, 2007.
- A. Klementiev and D. Roth. [Weakly Supervised Named Entity Transliteration and Discovery from Multilingual Comparable Corpora](#). *In Proc. of the Annual Meeting of the Association for Computational Linguistics (ACL)*, 2006.
- A. Klementiev and D. Roth. [Named Entity Transliteration and Discovery from Multilingual Comparable Corpora](#). *In Proc. of the Annual Meeting of the North American Association of Computational Linguistics (NAACL)*, 2006.
- S. Swarup, K. Lakkaraju, A. Klementiev, S. Ray, and E. Sassen. [An Anticipatory Self-Organized Map for Robust Recognition](#). *In Proc. of the International Conference on Artificial Intelligence and Applications (AIA)*, 2005.

WORKSHOP PAPERS AND ABSTRACTS (REFEREED)

- A. Modi, I. Titov, and A. Klementiev. [Unsupervised Induction of Frame-Semantic Representations](#). *In Proc. of the NAACL Workshop on Inducing Linguistic Structure*, 2012.
- A. Klementiev, I. Titov, and B. Bhattarai. Crosslingual Distributed Representations of Words. *In Proc. of the NIPS Workshop on Deep Learning*, 2012.
- A. Irvine and A. Klementiev. [Using Mechanical Turk to Annotate Lexicons for Less Commonly Used Languages](#). *In Proc. of the NAACL Workshop on Creating Speech and Language Data With Amazon's Mechanical Turk*, 2010.
- A. Klementiev, D. Roth, K. Small, and I. Titov. [Unsupervised Prediction Aggregation](#). *In Proc. of the NIPS Workshop on Learning with Orderings*, 2009.
- M. Gamon, C. Leacock, C. Brockett, W. B. Dolan, J. Gao, D. Belenko, and A. Klementiev. [Using Statistical Techniques and Web Search to Correct ESL errors](#). *In Proc. of the CALICO Workshop on Automatic Analysis of Learner Language*, 2009.
- A. Klementiev, D. Roth, and K. Small. [A Framework for Unsupervised Rank Aggregation](#). *In Proc. of the SIGIR Workshop on Learning to Rank for Information Retrieval*, 2008.
- A. Klementiev, D. Roth, and K. Small. Unsupervised Rank Aggregation with Conditional Models. *In Snowbird Learning Workshop*, 2008.

- A. Klementiev and D. Roth. Named Entity Discovery from Multilingual Corpora. *In Proc. of the NIPS Workshop on Machine Learning for Multilingual Information Access*, 2006.

TEACHING

- [Statistical Learning for Structured Prediction with Applications to Natural Language Processing](#), Saarland University, Winter 2012/13 (with Ivan Titov).
- [Semi-supervised and Unsupervised Learning with Applications to Natural Language Processing](#), Saarland University, Summer 2012 (with Ivan Titov).
- [Applications of Probabilistic Graphical Models in Language and Speech Processing](#), Johns Hopkins University Department of Computer Science, Spring 2011 (with Ves Stoyanov and Shane Bergsma).

INVITED TALKS

- Induction of Semantic Representations Across Languages. University of Heidelberg (2015), Language Weaver (2013), Google (2013), Xerox Research Center Europe (2013), LinkedIn (2013), Nuance Communications (2013).
- Unsupervised Prediction Aggregation. Saarland University (2010).
- Learning with Incidental Supervision. Johns Hopkins University (2009), University of Alberta (2009), Microsoft Research Asia (2009).
- Unsupervised Rank Aggregation with Distance-Based Models. Beckman Institute, 2008.
- Named Entity Transliteration and Discovery from Multilingual Corpora. Beckman Institute, 2007.

PROFESSIONAL SERVICE

- Senior Program Committee Member for the Conference of the American Association for Artificial Intelligence (AAAI 2011).
- Tutorial Chair for Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017).
- Program Committee Member / Reviewer:
 - The International Conference of the Association on Computational Linguistics (ACL 2007, 2009, 2011, 2012, 2014, 2016, 2017, 2018, 2019).
 - The North American Conference on Computational Linguistics (NAACL-HLT 2007, 2012, 2013, 2015, 2018).
 - The Conference on Empirical Methods in Natural Language Processing (EMNLP 2009, 2010, 2011, 2015, 2018, 2020).
 - Transactions of the Association for Computational Linguistics (TACL 2015, 2017).
 - The International Conference on Machine Learning (ICML 2009, 2010).

- The Conference of the European Chapter of the Association for Computational Linguistics (EACL 2012).
- The International Conference on Computational Linguistics (COLING 2008, 2010).
- The Conference of the American Association for Artificial Intelligence (AAAI 2008, 2010, 2012, 2013).
- The International Joint Conference on Artificial Intelligence (IJCAI 2011).
- The Joint Conference on Lexical and Computational Semantics (*SEM 2013).
- The SIGNLL Conference on Computational Natural Language Learning (CoNLL 2014).

AWARDS

- Google research award for a project on Inducing Multilingual Semantic Representations, 2011.
- Nominated for the Microsoft Research Fellowship by the UIUC CS Department, 2008.
- Incomplete List of Teachers Ranked as Excellent by Their Students, UIUC, Spring 2002 and Spring 2003.

LANGUAGES

English, Russian.