

Fatemeh Torabi Asr
Postdoctoral Research Associate
Department of Linguistics
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EDUCATION

PhD, Computer Science (2011 – 2015)

Saarland University, Saarbrücken, Germany.

Thesis title: “*An information theoretic approach to production and comprehension of discourse markers*”

* With great honor (*Magna cum laude*)

Computational Linguistics Fall School DGfS (Aug – Sep 2011)

Institute for Computational Linguistics, University of Zürich (UZH), Switzerland.

M.Sc. Computer Science & Engineering, major in Software (2007 – 2010)

Shiraz University, Shiraz, Iran.

Thesis title: “*A computational model of syntactic category learning in children*”

* First rank among students of the class 2007

B.Sc. Computer Science & Engineering, major in Software (2003 – 2007)

Department of Computer Science and Engineering, Shiraz University, Shiraz, Iran.

Project title: “*A study on artificial intelligence game playing*”

* First rank among students of the class 2003

EMPLOYMENT

Postdoctoral Research Associate (Sep 2017 – Present)

Discourse Processing Lab, Department of Linguistics, Simon Fraser University, Burnaby (BC), Canada

Topics: fake news detection, document classification, social media, deep learning

Postdoctoral Research Associate (Dec 2015 – Aug 2017)

Cognitive Computing Lab, Department of Psychology and Brain Studies, Indiana University, Bloomington (IN), USA

Topics: distributional semantics, memory and learning, educational applications

Research Staff (Oct 2014 – Nov 2015)

Collaborative Research Center SFB 1102, Saarland University, Saarbrücken, Germany

Topics: information density and linguistic encoding in discourse-level communication

Research Staff (Apr 2011 – Sep 2014)

Cluster of Excellence MMCI, Saarland University, Saarbrücken, Germany

Topics: human sentence processing and applications in dialog systems

AWARDS and HONORS

Third Best Talk at Postdoc Research Day (Simon Fraser University 2018)
From: SFU Postdoc Association

Early Career Researcher Travel Award (Mentoring Workshop at SIGCSE 2017)
From: Computing Research Association (CRA)

Two Provost's Travel Awards for Women in Science (CogSci and NAACL 2016)
From: Indiana University Office of the Vice Provost for Research

Young Scientist Travel Award (CogSci 2016)
From: Indiana University Cognitive Science Program & National Science Foundation

Don and Betty Walker International Student Travel Award (ACL 2014)
From: Association for Computational Linguistics

TextLink Short Term Scientific Mission Grant (2014)
From: European Cooperation in Science and Technology (COST Action IS1312)

Exceptional Talents Award for Direct Entrance to the MSc Program (2007)
From: Department of Computer Science and Engineering, Shiraz University

Honorable Mentions in Regional ACM Programming Competitions (2005 – 2007)
From: IBM and Sharif University of Technology

PUBLICATIONS

Journal articles & book chapters

F. T. Asr, M. Taboada (in prep). *“Big data and quality data for automatic misinformation detection”*.

F. T. Asr and V. Demberg (under review) *“Interpretation of discourse connectives is probabilistic”*. Discourse Processes.

V. Demberg, **F. T. Asr** and M. Scholman (under review) *“Mapping PDTB and RST discourse relation annotations”*. Dialog and Discourse.

T. Sanders, V. Demberg, J. Hoek, M. Scholman, **F. T. Asr**, S. Zufferey and J. Evers-Vermeul (2018) *“Unifying dimensions in discourse relations: How various annotation frameworks are related”*. Corpus Linguistics and Linguistic Theory.

F. T. Asr, A. Fazly and Z. Azimifar (2013) *“From cues to categories: a computational study of children's early word categorization”*. Theory and applications of natural language processing: Springer-Verlag Berlin Heidelberg.

M. Samadi, **F. T. Asr**, J. Schaeffer and Z. Azimifar (2009) *“Extending the applicability of pattern and endgame databases”*. IEEE Transaction on Computational Intelligence and AI in Games.

Conference proceeding papers

F. T. Asr, Rob Zinkov, and M. N. Jones (2018) “*Querying Word Embeddings for Similarity and Relatedness*”. Annual Meeting of the North American Chapter of Association for Computational Linguistics (NAACL), New Orleans, Louisiana, USA.

F. T. Asr and M. N. Jones (2017) “*An artificial language evaluation of distributional semantic models*”. Proceedings of The 21st SIGNLL Conference on Computational Natural Language Learning (CoNLL), Vancouver, Canada.

F. T. Asr, J. A. Willits and M. N. Jones (2016). “*Comparing predictive and co-occurrence based models of lexical semantics trained on child-directed speech*”. Proceedings of the 38th Annual Conference of the Cognitive Science Society, Philadelphia, Pennsylvania, USA.

F. T. Asr and V. Demberg (2016). “*But and Although under the microscope*”. Proceedings of the 38th Annual Conference of the Cognitive Science Society, Philadelphia, Pennsylvania, USA.

F. T. Asr and V. Demberg (2015). “*Uniform Information Density at the level of discourse relations: negation markers and discourse connective omission*”. The 11th International Conference on Computational Semantics (IWCS), London, UK.

F. T. Asr, J. Sonntag, Y. Grishina and Manfred Stede (2014). “*Conceptual and practical steps in event coreference analysis of large-scale data*”. The 2nd Workshop on EVENTS: Definition, Detection, Coreference, and Representation at ACL, Baltimore, USA.

F. T. Asr and V. Demberg (2013). “*On the information conveyed by discourse markers*”. Workshop on Cognitive Modeling and Computational Linguistics at ACL, Sofia, Bulgaria.

F. T. Asr and V. Demberg (2012). “*Implicitness of discourse relations*”. 24th International Conference on Computational Linguistics (Coling), Bombay, India.

F. T. Asr and V. Demberg (2012). “*Measuring the strength of linguistic cues for discourse relations*”. Workshop on Advances in Discourse Analysis and its Computational Aspects (ADACA), Bombay, India.

F. T. Asr, A. Fazly and Z. Azimifar (2010). “*The effect of word-internal properties on syntactic categorization: a computational modeling approach*”. Proceedings of the

32nd Annual Conference of the Cognitive Science Society, Portland, USA.

M. Samadi, J. Schaeffer, **F. T. Asr**, M. Samar and Z. Azimifar (2008). “*Using abstraction in two-player games*”. 18th Conference on Artificial Intelligence, Patras, Greece.

M. Samadi, **F. T. Asr**, Z. Azimifar and M. Z. Jahromi (2008). “*Separating the factors of the optimal solution in chess* ”. 13th Annual Conference of Computer Society of Iran, Kish Island, Iran.

Conference abstracts

F. T. Asr and M. N. Jones (2017). “*Different layers of distributional semantics*”. Annual Meeting of the Society for Computers in Psychology (SCiP), Vancouver, BC, Canada.

P. R. Dachapally, **F. T. Asr**, W. R. Aue, J. D. Karpicke , and M. N. Jones (2017). “*Automated keyword extraction from short passages using pre-trained neural embeddings*”. Annual Meeting of the Society for Computers in Psychology (SCiP), Vancouver, BC, Canada.

S. Jayamoorthy, **F. T. Asr**, W. R. Aue, J. D. Karpicke , and M. N. Jones (2017). “*Automatic question and answer generation from texts for retrieval-based learning*”. Annual Meeting of the Society for Computers in Psychology (SCiP), Vancouver, BC, Canada.

F. T. Asr and M. N. Jones (2016). “*Experimenting with the keyword matching approaches to automated short answer scoring*”. Midwest Speech and Language Days & Midwest Computational Linguistics Colloquium 2016, Bloomington, Indiana, USA.

V. Demberg, **F. T. Asr**, H. Rohde and M. Scholman (2015). “*Discourse expectations raised by contrastive connectives*”. Conference on Discourse Expectations: Theoretical, Experimental, and Computational Perspectives (DETEC), Edmonton, Canada.

F. T. Asr (2015). “*Colloquial Persian in discourse and dialogue*”. At the panel on Formal vs. Colloquial Persian from a Language Technology Perspective, the second biennial Symposia Iranica 2015, Cambridge, UK.

F. T. Asr and V. Demberg (2015). “*A discourse connector’s distribution determines its interpretation*”. The CUNY Conference on Human Sentence Processing 2015, Los Angeles, California, USA.

F. T. Asr and V. Demberg (2015). “*A distributional account of discourse connectives*”.

and its effect on fine-grained inferences". Text-link Conference, Louvain, Belgium.

F. T. Asr and V. Demberg (2014). "*Information density and the use of discourse cues*". Conference on the Architecture and Mechanism for Language Processing (AMLaP), Edinburgh, Scotland.

F. T. Asr and V. Demberg (2013). "*Can neighboring relations help to anticipate upcoming discourse relations?*". Conference on the Architecture and Mechanism for Language Processing (AMLaP), Marseille, France.

F. T. Asr and V. Demberg (2012). "*Tendency for causality in implicit discourse relations*". Corpus-Assisted Discourse Analysis (CADSConf), Bologna, Italy.

F. T. Asr and V. Demberg (2012). "*Discourse expectations and implicitness of (causal) discourse relations*". Conference on the Architecture and Mechanism for Language Processing (AMLaP), Trento, Italy.

F. T. Asr, A. Fazly and Z. Azimifar (2011). "*Simulation of a psychological experiment in a computational framework*". 4th International Conference of Cognitive Science, Tehran, Iran.

F. T. Asr, Z. Azimifar and A. Fazly (2009). "*A statistical modeling approach for child syntax acquisition*". 3rd International Conference of Cognitive Science, Tehran, Iran.

INVITED TALKS

Note: Presentations at conferences and home universities are not included.

Towards Automatic Detection of Fake News. School of Information, University of British Columbia, Vancouver, Canada (June 2018)

Investigating distributional semantic models trained on child directed speech as human lexical memory. Language Processing Lab, University of Calgary, Alberta, Canada (September 2016)

Insights into human discourse as information communication. Department of Linguistics, Ohio State University, Columbus, USA (April 2016)

Discourse connectives from an information theoretical perspective. Department of Languages, Literature and Communication, Universiteit Utrecht, Utrecht, Netherlands (April 2015)

Uniform information density at the level of discourse relations. MODERN project meeting, Utrecht Institute of Linguistics OTS, Universiteit Utrecht, Utrecht, Netherlands (April 2015)

Approaching event analysis in large-scale data. Tech talk at Amazon, Aachen, Germany (June 2015)

A computational psycholinguistic study of the discourse markers. Computational Linguistics Colloquium, Department of Linguistics, Universitaet Potsdam (Jan 2014)

**RESEARCH
VISITS**

Visiting Researcher (Nov 2014 – Dec 2014)
Institute for Language, Cognition and Computation, University of Edinburgh, Scotland

Visiting Researcher (Dec 2013 – Mar 2014)
Applied CompLing Discourse Research Lab, University of Potsdam, Germany

**TEACHING
EXPERIENCE**

Instructor (2011 – 2013)
Persian Language
Sprachezentrum, Saarland University, Saarbrücken, Germany

Instructor (2009 – 2010)
Data Structures, File Structures
Payamnour University, Shiraz, Iran

Instructor (2009 – 2010)
Advanced Programming
Pishtazan Higher Education Institute, Shiraz, Iran

Teaching Assistant (2003 – 2010)
Discrete Mathematics, Design and Analysis of Algorithms, Databases
Department of Computer Science and Engineering, Shiraz University, Shiraz, Iran.

**MENTORING
EXPERIENCE**

Siddarth Jayamoorthy (Automatic question answering for short passages, 2017)
Shashi Shankar (Sentence similarity measurement based on linguistic cues, 2017)
Prudhvi Raj Dachapally (Unsupervised keyword extraction, 2017)

**REVIEWING
SERVICES**

Conferences: *ESSLLI (2014, 2016)*, *EMNLP (2015)*, *DISPOL (2015)*, *EACL (2017)*, *IJCNLP (2018)*
Journals: *INFOCOMP*, *PLOS ONE*, *Discourse Processes*, *Behavior Research Methods*, *Computational Linguistics*.

**OTHER
ACTIVITIES**

Organization of the Distributional Semantics Meetings, Indiana University (2016)
Paneling on Persian Language Technology, Symposia Iranica, Cambridge, UK (2015)
Student volunteering at the annual meeting of the ACL, Baltimore, USA (2014)
Organization of the FEAST meetings at Saarland University, Germany (2012–2015)
Organization of workshops for university and high-school students (2006–2010)
Administration of Sina-Khayam interdisciplinary study group (2008–2010)
Administration of the ACM programming contests at Shiraz University (2006–2008)

**LANGUAGE
SKILLS**

Persian (native), English (fluent), German (A2), basic Turkish and Arabic