

Marzieh Fadaee

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Current position

PhD candidate, University of Amsterdam

Currently working in Information and Language Processing Systems (ILPS) group on developing models to understand interesting phenomena of the natural language. My research includes exploiting paraphrase relations for improved translation modeling, adapting the embedding space to capture the ambiguity nature of the language using topics, translation of infrequent words with neural systems, and idiom translation.

Research Areas

Natural Language Processing • Machine Translation • Semantics • Machine Learning • Computational Linguistics

Publications

- 2018 Marzieh Fadaee, Christof Monz. **Back-Translation Sampling by Targeting Difficult Words in Neural Machine Translation**, *Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Brussels, Belgium
- 2018 Marzieh Fadaee, Arianna Bisazza, Christof Monz. **Examining the Tip of the Iceberg: A Data Set for Idiom Translation**, *International Conference on Language Resources and Evaluation (LREC)*. Miyazaki, Japan
- 2017 Marzieh Fadaee, Arianna Bisazza, Christof Monz. **Data Augmentation for Low-Resource Neural Machine Translation**, *Association for Computational Linguistics (ACL)*. Vancouver, Canada
- 2017 Marzieh Fadaee, Arianna Bisazza, Christof Monz. **Learning Topic-Sensitive Word Representations**, *Association for Computational Linguistics (ACL)*. Vancouver, Canada
- 2013 Marzieh Fadaee, Hamidreza Ghader, Hesham Faili, Azadeh Shakery. **Automatic WordNet Construction Using Markov Chain Monte Carlo**, *International Conference on Intelligent Text Processing and Computational Linguistics (CICLING)*, Samos, Greece.

Education

- 2013 MSc in Computer Engineering, University of Tehran
- 2009 BSc in Computer Engineering, Sharif University of Technology

Experience

- 2018 **Research Scientist Intern, Ebay CoreAI**
Worked on transfer learning by integrating universal contextualized embeddings for inter-domain and cross-lingual challenges.
- 2014-present **Research Assistant, University of Amsterdam**
Duties include modeling and implementation of modules of an in-house translation system, data preprocessing, running and analysis of experiments.
- 2013-2014 **Researcher and Developer, Faraazin Translation Project**
Worked on developing a Persian↔English translation system.
- 2010-2013 **Research Assistant, University of Tehran**
Worked in NLP Lab and IIS Lab on constructing a Semantic Network for the Persian language and improving retrieval results in Query Expansion and Cross-Lingual IR.
- 2007-2009 **Software Developer, Iran Info-Tech Development Co.**

Technical skills

PROGRAMMING LANGUAGES

Proficient in Java, Python, Perl, C#, and R
Familiar with C/C++, SQL, HTML, PHP

NLP PACKAGES

Moses, SRILM, Phrasal, word2vec, Stanford CoreNLP, ELMo, OpenNMT

MACHINE LEARNING

Hands-on experience with supervised (classification/regression algorithms) and unsupervised (clustering, language modeling) techniques. Experience scikit-learn. Deep learning using Torch and PyTorch on GPUs. Probabilistic models.

Teaching

- 2017 *University of Amsterdam.* Applied Language Technology Course. Masters Artificial Intelligence
- 2016 *University of Amsterdam.* Applied Language Technology Course. Masters Artificial Intelligence
- 2015 *University of Amsterdam.* Data Mining Course. Bachelors Information Science
- 2013 *University of Tehran.* Natural Language Processing Course. Masters Artificial Intelligence
- 2012 *University of Tehran.* Pattern Recognition Course. Masters Artificial Intelligence
- 2011 *University of Tehran.* Advance Algorithm Course. Masters Artificial Intelligence

Service to the profession

- Presentation in Deep Learning and Reinforcement Learning Summer School (2018, Toronto, Canada)
Program Committee at WMT2017
Organizer and chair of the research group's weekly seminar at University of Amsterdam

Chair of the research group's weekly meeting at University of Amsterdam

Co-developer of Arabic-English and Chinese-English translation systems of the University of Amsterdam for NIST Open MT Evaluation

Participation Google NLP Summit (2015, Zürich, Switzerland)

Participation in MT Marathon (2014, Trento, Italy)

Grants & awards

- 2018 Travel grant for participating in Deep Learning and Reinforcement Learning Summer School, Toronto, Canada
- 2017 Travel grant for participating in Association for Computational Linguistics (ACL) conference, Vancouver, Canada
- 2015 Travel grant for participating in Google's NLP PhD Summit, Zürich, Switzerland
- 2011 Research grant from Research Institute of ICT (No. CS1391-4-19)
- 2003 Semifinalist in Iran National Olympiad in Informatics

Language skills

Persian (Farsi): Native language

English: Fluent, TOEFL (July 2013) Internet-Based Test: 110/120

Spanish: Proficient, Cervantes DELE Diploma in Spanish Level B2

Arabic: Moderate