

# Dr. Alexander PANCHENKO



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## Expertise and Research Interests

Statistical Natural Language Processing, Distributional Semantics, Machine Learning applied to Natural Language Processing and Social Network Analysis, Information Retrieval, Semantic Web.

## Background

- 2017 – now  
[uni-hamburg.de](http://uni-hamburg.de)  
**Universität Hamburg**, Postdoctoral Researcher  
Research in the fields of taxonomy induction, hypernymy extraction, word sense disambiguation, word sense induction and sense representation funded by a DFG project (national foundation for basic research).
- 2015 – 2017  
[tu-darmstadt.de](http://tu-darmstadt.de)  
**Technische Universität Darmstadt**, Postdoctoral Researcher  
Working on distributional semantics and unsupervised word sense disambiguation in the framework a DFG project “Joining Ontologies and semantics INduced from Text” [JOIN-T](#). Besides, I am involved in the [new/s/leak](#) project on data journalism with [Der Spiegel](#) and a project with [Deutsche Bahn](#) on sentiment analysis.
- 2013 – 2015  
[socialkey.ru](http://socialkey.ru)  
[digsolab.com](http://digsolab.com)  
**Digital Society Laboratory**, Senior Researcher  
Working on large-scale Natural Language Processing of social networks such as Facebook, VK.com and LiveJournal.com: sentiment analysis, text categorization, gender detection, age detection, profile matching, etc.
- 2009 – 2013  
[uclouvain.be/cental](http://uclouvain.be/cental)  
**Université catholique de Louvain**, PhD student  
PhD in Natural Language Processing (a joint degree with Moscow State Technical University). Research topic: “Similarity Measures for Semantic Relation Extraction”. Supervisors: Cedrick Fairon and Andrew Philippovich. Involvement in the European research projects [iCOP](#) and [ELIS-IT](#). Demo: <http://www.serelex.org>
- 10/2008 – 04/2009  
[xrce.xerox.com](http://xrce.xerox.com)  
**Xerox Research Centre Europe**, Research Intern  
Internship at Textual and Visual Pattern Analysis Group on development prototype of a multimedia information seeking system, implementing retrieval algorithms and a graph-oriented GUI.
- 2002—2008  
[bmstu.ru](http://bmstu.ru)  
**Moscow State Technical University (BMSTU)**, Student  
Computer Science Dept. Engineering and Bachelor’s degree in Computer Science, majoring in Data Processing and Control Systems.

## Selected Publications

- [1] Panchenko A., Fide M., Ruppert E., Faralli S., Ustalov D., Ponzetto S.P., Biemann C. (2017): [Unsupervised, Knowledge-Free, and Interpretable Word Sense Disambiguation](#). In Proceedings of the EMNLP. Copenhagen, Denmark.
- [2] Ustalov D., Panchenko A., Biemann C. (2017). [Watset: Automatic Induction of Synsets from a Graph of Synonyms](#). In Proceedings of ACL. Vancouver, Canada.
- [3] Ustalov D., Arefyev N., Biemann C., Panchenko A. (2017): [Negative Sampling Improves Hypernymy Extraction Based on Projection Learning](#). In Proceedings of the EACL. Valencia, Spain

- [4] Faralli S., Panchenko A., Biemann C., and Ponzetto S. P. (2017): [The ContrastMedium Algorithm: Taxonomy Induction From Noisy Knowledge Graphs With Just A Few Links](#). In Proceedings of the EACL. Valencia, Spain
- [5] Panchenko A., Ruppert E., Faralli S., Ponzetto S. P., and Biemann C. (2017): [Unsupervised Does Not Mean Uninterpretable: The Case for Word Sense Induction and Disambiguation](#). In Proceedings of the EACL. Valencia, Spain
- [6] Faralli S., Panchenko A., Biemann C., Ponzetto S. P. (2016): [Linked Disambiguated Distributional Semantic Networks](#). In Proceedings of the 15th International Semantic Web Conference (ISWC 2016). pp. 56-64, Kobe, Japan. Lecture Notes in Computer Science, Springer
- [7] Yimam S.M., Ulrich H., von Landesberger T., Rosenbach M., Regneri M., Panchenko A., Lehmann F., Fahrner U., Biemann C. Ballweg K. (2016): [news/leak – Information Extraction and Visualization for Investigative Data Journalists](#). In Proceedings of the ACL. Berlin, Germany
- [8] Pelevina M., Arefyev N., Biemann C., Panchenko A. (2016): [Making Sense of Word Embeddings](#). In Proceedings of the 1st Workshop on Representation Learning for NLP co-located with the ACL conference. Berlin, Germany. **Best paper award**
- [9] Panchenko A., Faralli S., Ruppert E., Remus S., Naets H., Fairon C. Ponzetto S. P., and Biemann, C. [TAXI: a Taxonomy Induction Method based on Lexico-Syntactic Patterns, Substrings and Focused Crawling](#). In Proceedings of the 10th International Workshop on Semantic Evaluation, Association for Computational Linguistics, San Diego, CA, USA, 2016 **Top rank at the SemEval**
- [10] Panchenko A. (2016). [Best of Both Worlds: Making Word Sense Embeddings Interpretable](#). In Proceedings of LREC 2016, Portorož, Slovenia
- [11] Kivimaki I., Panchenko A., Dessy A. Verdegem D., Francq P., Fairon C., Bersini H., Saerens M. [A Graph-Based Approach to Skill Extraction from Text](#). In Proceedings of TextGraphs-8 Workshop. In Empirical Methods for Natural Language Processing (EMNLP 2013). Seattle, USA. 2013
- [12] Panchenko A., Romanov P., Morozova O., Naets H., Romanov A., Philippovich A., Fairon C. ["Serelex: Search and Visualization of Semantically Similar Words"](#). In Proceedings of the 35th European Conference on Information Retrieval (ECIR). LNCS 7814, pp. 837-840. Springer-Verlag Berlin Heidelberg, 2013.
- [13] Panchenko A., Morozova O., Naets H. ["A Semantic Similarity Measure Based on Lexico-Syntactic Patterns."](#) In Conference on Natural Language Processing (KONVENS), — Vienna (Austria), pp.174--178, 2012

## References

- Prof. Chris Biemann, Language Technology Group, University of Hamburg, Hamburg, Germany [biemann@informatik.uni-hamburg.de](mailto:biemann@informatik.uni-hamburg.de)
- Prof. Cédric Fairon, Director of Centre for Natural Language Processing, **Université catholique de Louvain**, Louvain-la-Neuve, Belgium. [cedrick.fairon@uclouvain.be](mailto:cedrick.fairon@uclouvain.be)
- Dr. Richard Beaufort, Senior Research Engineer, **Nuance Technologies Inc.**, Ghent, Belgium, [richard.beaufort@nuance.com](mailto:richard.beaufort@nuance.com)
- Dr. Jean-Michel Renders, Principal Research Scientist, **Xerox Research Centre Europe (XRCE)**, Machine Learning for Document Access Group, Grenoble, France. [jean-michel.renders@xrce.xerox.com](mailto:jean-michel.renders@xrce.xerox.com)
- Prof. Marco Saerens, **Université catholique de Louvain**, Machine Learning Group, Louvain-la-Neuve, Belgium. [marco.saerens@uclouvain.be](mailto:marco.saerens@uclouvain.be)

## Grants and scholarships

- Amazon Research Grant: "Web-Scale Word Sense Induction and Disambiguation with JoBimText Framework", 2016
- VW Research Grant: "Data Extraction and Interactive Visualization of Unexplored Textual Datasets for Investigative Data-Driven Journalism", 2016--2017
- PhD scholarship "Bourse d'excellence Wallonie-Bruxelles International", Belgium, 2008--2012.