Maksim Tkachenko

CONTACT INFORMATION

Homepage: www.mtkachenko.info
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EDUCATION

Singapore Management University, Singapore
School of Information Systems,
PhD, 2015 - 2018, Full-ride Scholarship Awarded + Presidential Doctoral Fellowships (2 consecutive years)
Thesis: Comparison Mining from Text
Supervisor: Hady W. Lauw
Dissertation Committee: Jiang Jing, Zheng Baihua, Xiaoli Li

St. Petersburg State University, Russia
Faculty of Mathematics and Mechanics,
Software Engineering Department,
Specialist, 2006 - 2011, Competitive Full-ride Scholarship Awarded
Thesis: Named Entity Recognition Technique Based on Wikipedia
Supervisor: Boris Novikov

RESEARCH INTERESTS

Text Mining, Natural Language Processing, Data Mining, Machine Learning, Information Extraction, Statistics, Graphical Models

PUBLICATIONS (PEER-REVIEWED)

[1] Maksim Tkachenko and Hady W Lauw. "CompareLDA: A Topic Model for Document Comparison". In: *Proc. of AAAI Conference on Artificial Intelligence,* **AAAI**, *Full Paper*. 2019.

[2] Maksim Tkachenko, Chong Cher Chia, and Hady W. Lauw. "Searching for the X-Factor: Exploring Corpus Subjectivity for Word Embeddings". In: *Proc. of Annual Meeting of the Association for Computational Linguistics,* **ACL**, *Full Paper*. 2018.

[3] Maksim Tkachenko and Hady W. Lauw. "Comparative Relation Generative Model". In: *IEEE Transactions on Knowledge and Data Engineering,* **TKDE**, *Journal Paper,* 29.4 (2017).

[4] Maksim Tkachenko and Hady W. Lauw. "Plackett-Luce Regression Mixture Model for Heterogeneous Rankings". In: *Proc. of ACM International Conference on Information and Knowledge Management,* **CIKM**, *Full Paper*. 2016.

[5] Maksim Tkachenko and Hady W. Lauw. "A Convolution Kernel Approach to Identifying Comparisons in Text". In: *Proc. of Annual Meeting of the Association for Computational Linguistics and International Joint Conference on Natural Language Processing,* **ACL-IJCNLP**, *Full Paper*. 2015.

[6] Maksim Tkachenko and Hady W. Lauw. "Generative Modeling of Entity Comparisons in Text". In: *Proc. of ACM International Conference on Information and Knowledge Management,* **CIKM**, *Full Paper*. 2014.

[7] Rinat Gareev, Maksim Tkachenko, Valery Solovyev, Andrey Simanovsky, and Vladimir Ivanov. "Introducing Baselines for Russian Named Entity Recognition". In: *Proc. of Computational Linguistics and Intelligent Text Processing,* **CICLing**, *Full Paper*. 2013.

[8] Maksim Tkachenko and Andrey Simanovsky. "Named Entity Recognition: Exploring Features". In: *Proc. of Conference on Natural Language Processing,* **KONVENS**, *Full Paper*. 2012.

[9] Maksim Tkachenko and Andrey Simanovsky. "Selecting Features for Domain-Independent Named Entity Recognition". In: *Proc. of Conference on Natural Language Processing,* **KONVENS**, *Short Paper*. 2012.

[10] Maksim Tkachenko, Alexander Ulanov, and Andrey Simanovsky. "Classifying Wikipedia Entities into Fine-Grained Classes". In: *Proc. of IEEE International Conference on Data Engineering (Workshops),* **ICDEW**, *Workshop Paper*. 2011.

Employment

School of Information Systems, Singapore Management University

Research Scientist 12/2018 (Current Position)
Research Assistant 11/2013 - 07/2015

Leading data infrastructure project, which aims to bridge together variety of e-commerce data and sources. Analysing the language of online reviews, including but not limited to opinion and comparison mining. Co-supervising graduate and undergraduate students.

St. Petersburg State University, Russia

Research Engineer 07/2012 - 11/2013
Junior Researcher 11/2011 - 07/2012

Worked on named entity recognition (NER) and entity linking systems for a number of European languages (e.g., English, French). Designed and validated an active learning scheme for training sequential labeling models. Developed the state-of-the-art named entity recognition system for English. Experimented with word/phrase embedding methods for sequential labeling.

Hewlett Packard Labs, St. Petersburg, Russia

Research Engineer 11/2011 - 11/2013
Research Intern 12/2009 - 11/2011

Joint position with St. Petersburg State University (please refer above-mentioned for details).
Designing systems for fine-grained text classification. Proposed and validated a fine-grained classifier for Wikipedia.

Lanit-Tercom, Inc., R&D department, St. Petersburg, Russia

Software Engineer 09/2009 - 12/2010

Developing news media information retrieval and opinion mining systems. Worked on low-level language processing for Russian (e.g., part-of-speech tagging, lemmatization).

JetBrains, MPS Team, St. Petersburg, Russia

Software Developer 06/2009 - 09/2009

Developing compilers for scripting languages (i.e., bash and cmd).

Awards & Grants

- 2017-2018 & 2018-2019, Presidential Doctoral Fellow, Singapore Management University (competitive, the recipients of this fellowship are selected from the top 5% of PhD students across SMU). Total funding awarded: 78000 SGD.
- Development Technology of Information Extraction Systems for the Russian Language, 2013-2015. (with V. Ivanov, F. Nikolaev, M. Sidikov, A. Simanovsky, R. Gareev, R. Yamilov and V. Solovyev). The project is supported by Russian Foundation for Basic Research.
- SIGIR Student Travel Grants, 2016. 470 USD.

Academic Service

- PC Member: IJCAI 2020, PAKDD 2020, AAAI 2020, SEIM 2020, SEIM 2018, SEIM 2017, SEIM 2016, SYRCoDIS 2014.
- Invited Conference Reviewer: DSAA 2017, PAKDD 2017, DSAA 2016, PAKDD 2015, CIKM 2014, ICDM 2014.
- Journal Reviewer:
  - Transactions of the Association for Computational Linguistics (TACL)
  - Language Resources and Evaluation Journal
  - Journal of the Association for Information Science and Technology (JASIST)

Public Talks

- Data Science Meetup @ Kuala Lumpur by SEEK Asia, Big Data Malaysia, DataViz My, March 2019
- Data Science Meetup by Singapore Data Science Consortium, June 2018
- Series of talks in Russia on Learning User Preferences from Multi-Modal Data:
  - Computer Science Club @ St. Petersburg Department of V.A. Steklov Mathematical Institute, Russian Academy of Sciences, February 2018
  - ITMO University, February 2018
  - Avito Data Science Meetup on Personalization, June 2018
  - Sberbank-Technologies, June 2018
  - Moscow Institute of Physics and Technology, June 2018
- The Three Minute Thesis competition @ Nanyang Technological University (Singapore), 2017

Teaching

- Summer Internship (undergraduate level), Mentor, 2019-2020
- Course on Web Data Extraction and Regression Analysis (polytechnic and undergraduate levels), Instructor, (latest course feedback: 90% of students indicated the top two feedback levels on the usefulness of the course)
- Computational Thinking (undergraduate level), Workshop Instructor, 2017 (teaching feedback: 3.9/5)

Research Prototypes

- Neural Network Lab, a visual language for designing and evaluating neural network models.
- CompareLDA (Comparative Latent Dirichlet Allocation) learns predictive topic distributions that comply with the pairwise comparison observations.
- Plackett-Luce Regression Mixture Model (PLRMM) finds preference groups within a population of rankers.
- Tree-SVM learns SVM-based classifiers over tree structures.
- SentiVec learns word embeddings and enriches them with specified lexical information (e.g., sentiment).
- Venom is a focused crawler framework.
- Simple-ML implements online learning algorithms for classification.

Languages

English (fluent), Russian (native), Mandarin (basic)