

## Todor Mihaylov

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<b>RESEARCH INTERESTS</b>	<i>Natural Language Processing, Deep Learning, Natural Language Understanding, Reading Comprehension with External Knowledge, Question Answering</i>	
<b>EDUCATION</b>	<i>PhD in Computational Linguistics</i>	April 2016 - 2022
	Thesis: Knowledge-Enhanced Neural Networks for Machine Reading Comprehension	
	Department of Computational Linguistics	
	Heidelberg University, Germany	
	Research Training Group AIPHES	
	<i>MSc in Computer Science</i>	October 2013 - July 2015
	Information Retrieval and Knowledge Discovery	
	Sofia University, Sofia, Bulgaria	
	<i>Bachelor of Computer Science,</i>	September 2008 - May 2012
	Computer Systems and Technologies	
	Technical University of Sofia, Sofia, Bulgaria	
<b>WORK EXPERIENCE</b>	<i>Research Scientist</i>	Nov 2020 - Now
	Facebook AI, Menlo Park, CA, USA	
	<i>Doctoral Researcher</i>	April 2016 - Sep 2019
	Department of Computational Linguistics	
	Heidelberg University, Heidelberg, Germany	
	Conducting research in natural language processing as part of doctoral studies.	
	<i>Research Intern</i>	April 2018 - June 2018
	The Allen Institute for Artificial Intelligence, Seattle, WA, USA	
	Work on science question answering at the Aristo team.	
	<i>Research Scientist Intern</i>	June 2017 - September 2017
	Amazon AI, AWS Deep Learning, Palo Alto, CA, USA	
	Work on transfer learning for question answering.	
	<i>Software Engineer</i>	October 2008 - March 2016
	“Acstre“ Software Development Group	
	Faculty of Applied Mathematics and Informatics	
	Technical University of Sofia	
	Developing web and server business applications.	

- PUBLICATIONS** *Efficient Large Scale Language Modeling with Mixtures of Experts* Dec 2021  
Pre-rint arXiv:2112.10684  
Mikel Artetxe\*, Shruti Bhosale\*, Naman Goyal\*, **Todor Mihaylov**, Myle Ott\*, Sam Shleifer\*, Xi Victoria Lin, Jingfei Du, Srinivasan Iyer, Ramakanth Pasunuru, Giri Anantharaman, Xian Li, Shuohui Chen, Halil Akin, Mandeep Baines, Louis Martin, Xing Zhou, Punit Singh Koura, Brian O'Horo, Jeff Wang, Luke Zettlemoyer, Mona Diab, Zornitsa Kozareva, Ves Stoyanov *Few-shot Learning with Multilingual Language Models* Dec 2021  
Pre-rint arXiv:2112.10668  
Xi Victoria Lin\*, **Todor Mihaylov**, Mikel Artetxe, Tianlu Wang, Shuohui Chen, Daniel Simig, Myle Ott, Naman Goyal, Shruti Bhosale, Jingfei Du, Ramakanth Pasunuru, Sam Shleifer, Punit Singh Koura, Vishrav Chaudhary, Brian O'Horo, Jeff Wang, Luke Zettlemoyer, Zornitsa Kozareva, Mona Diab, Veselin Stoyanov, Xian Li\*
- EXAMS: A Multi-subject High School Examinations Dataset for Cross-lingual and Multilingual Question Answering* Nov 2020  
Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing, EMNLP 2020  
Momchil Hardalov, **Todor Mihaylov**, Dimitrina Zlatkova, Yoan Dinkov, Ivan Koychev, Preslav Nakov
- Discourse-Aware Semantic Self-Attention for Narrative Reading Comprehension* Nov 2019  
Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing, EMNLP-IJCNLP 2019  
**Todor Mihaylov**, Anette Frank
- Can a Suit of Armor Conduct Electricity? A New Dataset for Open Book Question Answering* Oct 2018  
Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing, EMNLP 2018  
**Todor Mihaylov**, Peter Clark, Tushar Khot, Ashish Sabharwal
- Knowledgeable Reader: Enhancing Cloze-Style Reading Comprehension with External Commonsense Knowledge* July 2018  
Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics, ACL 2018  
**Todor Mihaylov**, Anette Frank
- What's Important in a Text? An Extensive Evaluation of Linguistic Annotations for Summarization* April 2018  
Proceedings of the Second International Workshop on Advances in Natural Language Processing, Valencia, Spanien.  
Markus Zopf, Teresa Botschen, Tobias Falke, Ana Marasovic, **Todor Mihaylov**, Avinash P.V.S, Eneldo Loza Menca, Johannes Frnkranz und Anette Frank
- The Dark Side of News Community Forums: Opinion Manipulation Trolls* March 2018  
Internet Research, 2018  
**Todor Mihaylov**, Tsvetomila Mihaylova, Preslav Nakov, Llus Mrquez, Georgi D. Georgiev, Ivan Koychev
- Neural Skill Transfer from Supervised Language Tasks* November 2017

*to Reading Comprehension*

Workshop on Learning with Limited Labeled Data (LLD) at NIPS 2017

**Todor Mihaylov**, Zornitsa Kozareva, Anette Frank

*Large-Scale Goodness Polarity Lexicons for Community  
Question Answering*

August 2017

In Proceedings of the 40th International Conference on Research and Development  
in Information Retrieval (SIGIR) 2017

**Todor Mihaylov**, Daniel Balchev, Yassen Kiproff, Ivan Koychev, Preslav Nakov

*Story Cloze Ending Selection Baselines and Data Examination*

April 2017

*Proceedings of the Linking Models of Lexical, Sentential and Discourse-level Semantics  
Shared Task 2017*

**Todor Mihaylov**, Anette Frank

*AIPHES-HD system at TAC KBP 2016: Neural Event Trigger Span Detection and  
Event Type and Realis Disambiguation with Word Embeddings*

November 2016

Proceedings of the TAC Knowledge Base Population (KBP) 2016

**Todor Mihaylov**, Anette Frank

*Discourse Relation Sense Classification Using Cross-argument Semantic Similarity  
Based on Word Embeddings*

August 2016

Proceedings of the Twentieth Conference on Computational Natural Language Learning  
- Shared Task, 2016

**Todor Mihaylov**, Anette Frank

*Hunting for Troll Comments in News Community Forums*

August 2016

The 54th Annual Meeting of the Association for Computational Linguistics, ACL  
2016

**Todor Mihaylov**, Preslav Nakov, Georgi D Georgiev

*SemanticZ at SemEval-2016 Task 3: Ranking Relevant Answers*

*in Community Question Answering Using Semantic Similarity Based On Fine-tuned  
Word Embeddings*

June 2016

International Workshop on Semantic Evaluation (SemEval) 2016

**Todor Mihaylov**, Preslav Nakov

*SUPER Team at SemEval-2016 Task 3: Building a Hybrid System for Community Question  
Answering*

June 2016

International Workshop on Semantic Evaluation 2016

Tsvetomila Mihaylova, Pepa Gencheva, Martin Boyanov, Ivana Yovcheva

**Todor Mihaylov**, Momchil Hardalov, Yassen Kiproff, Daniel Balchev, Ivan Koychev,  
Preslav Nakov Ivelina Nikolova, Galia Angelova

*Exposing Paid Opinion Manipulation Trolls*

September 2015

Recent Advantages in Natural Language Processing (RANLP) 2015

**Todor Mihaylov**, Ivan Koychev, Georgi D Georgiev, Preslav Nakov

*Finding Opinion Manipulation Trolls in News Community Forums*

July 2015

The 19th Conference on Computational Natural Language Learning, CONLL 2015

**Todor Mihaylov**, Georgi D Georgiev, Preslav Nakov

*SU-FMI: System Description for SemEval-2014 Task 9 on Sentiment*

August 2014

*Analysis in Twitter*, SemEval 2014

Boris Velichkov, Borislav Kapukaranov, Ivan Grozev, Jeni Karanesheva  
**Todor Mihaylov**, Yassen Kiprof, Georgi Georgiev, Ivan Koychev, Preslav Nakov

<b>REVIEWING</b>	<i>Conferences:</i> EMNLP 2016, ACL 2017, ACL 2018, NAACL-HLT 2019, EMNLP 2020, EMNLP 2021, ARR Nov 21 - Now <i>Workshops:</i> SemEval 2014, SemEval 2016, CONLL-ST 2016, LSDSem-ST 2017, Rep4NLP 2018, SSS 2019, Rep4NLP 2019, COIN 2019, EurNLP 2019, Rep4NLP 2020, MRL 2021
<b>TEACHING EXPERIENCE</b>	<i>Teaching Assistant (Machine Learning, Information Retrieval)</i> Oct 2014 - Feb 2016 Faculty of Mathematics and Informatics Sofia University
<b>HONORS AND AWARDS</b>	<i>3rd in LDSem 2017 Shared Task on the Story Cloze Test</i> Feb 2017 3rd best performing system in the official evaluation  <i>1st in CoNLL-2016 Shared Task on Discourse Relation</i> May 2016 Sense Classification  Best performing system in the overall evaluation for the Discourse Relation Sense Classification for English  <i>3rd in SemEval-2016 Task 3: Community Question Answering</i> Feb 2016 3rd place in Subtask A, English (Question-Comment Similarity) 3rd place in Subtask C, English (Question-External Comment Similarity) 1st place in Subtask C, English (Question-External Comment Similarity) (as a part of a team)  <i>IIE's Summer Entrepreneurship Program (SEP) scholarship</i> July 2014 International Institute of Education's Summer Entrepreneurship Program (SEP) scholarship part of the Bulgaria Young Leaders Program (BYLP) by the America for Bulgaria Foundation  <i>Winner of BAIT Awards for 2013 , Students awards</i> January 2014 Annual Awards of Bulgarian Association of Information Technologies  <i>WEBLOZ Students'12 winner in category Web Applications</i> February 2012 Student software development competition
<b>TECHNOLOGY SKILLS</b>	<i>Machine learning and NLP tools:</i> PyTorch, TensorFlow, AllenNLP, scikit-learn, gensim, NLTK, Libsvm/Liblinear, GATE <i>Programming Languages:</i> Python, C#, Java <i>Other Technologies:</i> Apache Lucene, Apache Solr, PostgreSQL

**LANGUAGES**

*Bulgarian*: Native language  
*English*: Full professional proficiency  
*German*: Elementary proficiency

**ADDITIONAL**

Personal page: <https://tmihaylov.com>  
Google Scholar profile: <https://scholar.google.de/citations?user=igempQwAAAAJ&hl=en>  
Linkedin profile: <https://www.linkedin.com/in/todormihaylov/>  
GitHub profile: <https://github.com/tbmihailov>

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