

CURRICULUM VITAE – MOMCHIL HARDALOV

PERSONAL INFORMATION

Momchil Hardalov

📍 Sofia, Bulgaria

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🎓 [Google Scholar](#)

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RESEARCH INTERESTS

Natural Language Processing • Few-Shot Learning with Large Language Models • Semi-Supervised Learning • Multilingual Learning • Stance Detection • Abusive Language Detection • Question Answering • Conversational Agents.

EDUCATION

Ph.D Candidate in Natural Language Processing 2017 - 2022 (Expected)

Focus in conversational agents and question answering systems

Sofia University “St. Kliment Ohridski”, Sofia, Bulgaria

MSc in Computer Science 2014 - 2016

Information Retrieval and Knowledge Discovery, GPA 6.0/6.0

Sofia University “St. Kliment Ohridski”, Sofia, Bulgaria

Bachelor of Computer Science 2010 - 2014

Computer Systems and Technologies, GPA 5.55/6.0

Technical University-Sofia, Sofia, Bulgaria

WORK EXPERIENCE

Research Scientist Checkstep Research November 2020 - May 2022

- ≡ Conducted research in natural language processing for content moderation and stance detection.
 - ✓ Published 5 scientific papers, 4 are accepted to appear in top-tier venues.
 - ✓ Developed and delivered models to end clients in collaboration with the dev team.
 - ✓ Curated machine learning models based on the specifics in the clients’ policy definitions.
 - Worked on few-shot and multi-domain learning for mono and cross-lingual stance detection.
 - Researched semantic neighborhood models for cross-lingual abusive language detection.

Machine Learning Engineer Receipt Bank (now Dext) November 2019 - November 2020

- ≡ Worked on automatic field information extraction from unstructured payment documents.
 - ✓ Improved the extraction coverage and the overall accuracy of key fields (4%–10% depending on the field and the metric).
 - ✓ Developed models for new (client requested) fields working closely with the Business team.
 - Researched, prototyped, and productionalized machine learning models.

Machine Learning Engineer AdCash August 2015 - October 2017

- ≡ Developed distributed and scalable product serving ad recommendations.
 - ✓ Increased the company’s profit by 7% with a new ad serving (exploitation) model.
 - ✓ Increased the ad diversity by 12% and the revenue by 5% with a new (exploration) model.
 - Researched, prototyped, and productionalized machine learning models.
 - Designed and executed experiments (A/B tests) for model optimizations.
 - Worked closely with the Business team to design new features.

Team Lead Acstre July 2010 - August 2015

- ≡ Designed, developed and maintained desktop and web applications.
 - Led a small team of developers.
 - ✓ Productionalized an unified user management and security system integrated into more than 20 company products spanning over 250 organizations.
 - ✓ Built an event-based notification system with communication channels as plug-ins.
 - ✓ Successfully migrated existing projects’ legacy database management system to PostgreSQL.
 - Delivered multiple software projects by leading 3-5 people project teams.
 - Gathered technical specifications for new products/features from clients.

TECHNOLOGY SKILLS

Programming languages: Python, Java, C/C++, R, SQL.

Frameworks: PyTorch, TensorFlow, Keras, SciPy, Scikit-learn, NLTK, Transformers, Gensim, Apache Spark, Hadoop, CoreNLP.

Other: Redis, Elasticsearch, Kafka, Docker, Lucene.

TEACHING EXPERIENCE	Teaching Assistant (Information Retrieval, Data Mining, Text Mining) Faculty of Mathematics and Informatics Sofia University “St. Kliment Ohridski”, Sofia, Bulgaria	October 2015 - Present
HONORS AND AWARDS	1 st /6 PAN@CLEF “Author Identification” 1 st in class Gold medal, Sofia University 1 st /18 SemEval “Community Question-Answering” 2 nd /22 PAN@CLEF “Author Profiling” (Spanish) 6 th /22 PAN@CLEF “Author Profiling” (English) National Young People Encouragement Program, Embassy of Sweden National Winner in category “Students Award”, BAIT Awards Top 15% Award for academic excellence, Technical University	2018 2016 2016 2015 2015 2015 2014 2014
LANGUAGES	Bulgarian: Native or bilingual proficiency German: Elementary proficiency	English: Full working proficiency Russian: Elementary proficiency
SERVICE	Program Committee: AAAI ’21 ’22; ACL ’18 ’20 ’21 ’22; ACL Rolling Review (since Nov 2021); COLING ’20 ’22; EACL ’21; EMNLP ’19 ’20 ’21; ICJNN’ 19; NAACL-HLT ’21 ’22; RANLP ’21; SIGIR ’19 ’20; Truth and Trust Online (TTO) ’21; WWW ’22 Workshops (reviewer): CLEF ’21; CoNLL’ 19; RANLP SRW ’21; SemEval ’18 Journals (ad-hoc reviewing): Computer Speech & Language (CSL); IEEE Access; Journal of Data and Information Quality (JDIQ); MDPI (Applied Sci., Info., Comp.); Northern European Journal of Language Technology (NEJLT); Online Social Networks and Media (OSNM)	
CONFERENCE PAPERS	Momchil Hardalov , Arnav Arora, Preslav Nakov, and Isabelle Augenstein. A Survey on Stance Detection for Mis- and Disinformation Identification . In <i>Findings of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, NAACL-HLT ’22 (Findings)</i> Momchil Hardalov , Arnav Arora, Preslav Nakov, and Isabelle Augenstein. Few-Shot Cross-Lingual Stance Detection with Sentiment-Based Pre-Training . In <i>Proceedings of the Thirty-Sixth AAAI Conference on Artificial Intelligence, AAAI-22</i> Kristiyan Vachev, Momchil Hardalov , Georgi Karadzhov, Georgi Georgiev, Ivan Koychev, and Preslav Nakov. Leaf: Multiple-Choice Question Generation . In <i>Proceedings of the 44th European Conference on Information Retrieval (Demonstrations), ECIR-2022</i> Momchil Hardalov , Arnav Arora, Preslav Nakov, and Isabelle Augenstein. Cross-Domain Label-Adaptive Stance Detection . In <i>Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing, EMNLP ’21</i> Momchil Hardalov , Todor Mihaylov, Dimitrina Zlatkova, Yoan Dinkov, Ivan Koychev, and Preslav Nakov. EXAMS: A Multi-subject High School Examinations Dataset for Cross-lingual and Multilingual Question Answering . In <i>Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing, EMNLP ’20</i> Momchil Hardalov , Ivan Koychev, and Preslav Nakov. Beyond English-Only Reading Comprehension: Experiments in Zero-shot Multilingual Transfer for Bulgarian . In <i>Proceedings of the International Conference on Recent Advances in Natural Language Processing, RANLP ’19</i> Momchil Hardalov , Ivan Koychev, and Preslav Nakov. Towards Automated Customer Support . In <i>Proceedings of the 18th International Conference on Artificial Intelligence: Methodology, Systems, and Applications, AIMSAS ’18</i> Daniel Kopev, Dimitrina Zlatkova, Kristiyan Mitov, Atanas Atanasov, Momchil Hardalov , Ivan Koychev, and Preslav Nakov. Recursive Style Breach Detection with Multifaceted Ensemble Learning . In <i>Proceedings of the 18th International Conference on Artificial Intelligence: Methodology, Systems, and Applications, AIMSAS ’18</i>	2022 2022 2022 2021 2020 2019 2018 2018

	Momchil Hardalov, Ivan Koychev, and Preslav Nakov. In Search of Credible News . In <i>Proceedings of the 17th International Conference on Artificial Intelligence: Methodology, Systems, and Applications</i> , AIMSAS '16	2016
JOURNAL PAPERS	Sheikh Muhammad Sarwar, Dimitrina Zlatkova, Momchil Hardalov , Yoan Dinkov, Isabelle Augenstein, and Preslav Nakov. A Neighborhood Framework for Resource-Learn Content Flagging . <i>Transactions of the Association for Computational Linguistics, TACL</i> , 10	2022
	Momchil Hardalov , Ivan Koychev, and Preslav Nakov. Machine Reading Comprehension for Answer Re-Ranking in Customer Support Chatbots . <i>Information</i> , 10(3)	2019
WORKSHOP PAPERS	Kristiyan Vachev, Momchil Hardalov , Georgi Karadzhov, Georgi Georgiev, Ivan Koychev, and Preslav Nakov. Generating Answer Candidates for Quizzes and Answer-Aware Question Generators . In <i>Proceedings of the Student Research Workshop Associated with RANLP 2021</i>	2021
	Simona Mihaylova, Iva Borisova, Dzhovani Chemishanov, Preslav Hadzhitsanev, Momchil Hardalov , and Preslav Nakov. DIPS at checkthat! 2021: Verified claim retrieval . In <i>Proceedings of the Working Notes of CLEF 2021 - Conference and Labs of the Evaluation Forum</i> , CEUR Workshop Proceedings	2021
	Dimitrina Zlatkova, Daniel Kopev, Kristiyan Mitov, Atanas Atanasov, Momchil Hardalov , Ivan Koychev, and Preslav Nakov. An Ensemble-Rich Multi-Aspect Approach for Robust Style Change Detection" . In <i>CLEF 2018 Evaluation Labs and Workshop – Working Notes Papers</i> , CLEF '18	2018
	Daniel Kopev, Atanas Atanasov, Dimitrina Zlatkova, Momchil Hardalov , Ivan Koychev, Ivelina Nikolova, and Galia Angelova. Tweety at SemEval-2018 Task 2: Predicting Emojis using Hierarchical Attention Neural Networks and Support Vector Machine . In <i>Proceedings of The 12th International Workshop on Semantic Evaluation</i> , SemEval '18	2018
	Tsvetomila Mihaylova, Pepa Gencheva, Martin Boyanov, Ivana Yovcheva, Todor Mihaylov, Momchil Hardalov , Yassen Kiprof, Daniel Balchev, Ivan Koychev, Preslav Nakov, Ivelina Nikolova, and Galia Angelova. SUPER Team at SemEval-2016 Task 3: Building a Feature-Rich System for Community Question Answering . In <i>Proceedings of the 10th International Workshop on Semantic Evaluation</i> , SemEval '16	2016
	Yassen Kiprof, Momchil Hardalov , Preslav Nakov, and Ivan Koychev. SU@ PAN'2015: Experiments in author profiling . In <i>CLEF 2015 Evaluation Labs and Workshop – Working Notes Papers</i> , CLEF '15	2015
OTHER	Preslav Nakov, Vibha Nayak, Kyle Dent, Ameya Bhatwadekar, Sheikh Muhammad Sarwar, Momchil Hardalov , Yoan Dinkov, Dimitrina Zlatkova, Guillaume Bouchard, and Isabelle Augenstein. Detecting Abusive Language on Online Platforms: A Critical Analysis . <i>arXiv preprint arXiv:2103.00153</i>	2021
	Momchil Hardalov , Ivan Koychev, and Preslav Nakov. Enriched Pre-trained Transformers for Joint Slot Filling and Intent Detection . <i>arXiv preprint arXiv:2004.14848</i>	2020