

CURRICULUM VITAE – MOMCHIL HARDALOV

PERSONAL INFORMATION

Momchil Hardalov

📍 Sofia, Bulgaria

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🎓 [Google Scholar](#)

👤 [mhardalov.com](#)

🐙 [github.com/mhardalov](#)

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 - Present

≡ Conducting research in natural language processing for content moderation and stance detection.

- ✓ Published 5 scientific papers, 3 are accepted to appear in top-tier venues.
- ✓ Developing and delivering models to end clients in collaboration with the dev team.
- ✓ Curating machine learning models based on the specifics in the clients’ policy definitions.
- Working on few-shot and multi-domain learning for mono and cross-lingual stance detection.
- Researching 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”	2018
	1 st in class	Gold medal, Sofia University	2016
	1 st /18	SemEval “Community Question-Answering”	2016
	2 nd /22	PAN@CLEF “Author Profiling” (Spanish)	2015
	6 th /22	PAN@CLEF “Author Profiling” (English)	2015
	National	Young People Encouragement Program, Embassy of Sweden	2015
	National	Winner in category “Students Award”, BAIT Awards	2014
	Top 15%	Award for academic excellence, Technical University	2014
LANGUAGES	Bulgarian: Native or bilingual proficiency English: Full working proficiency German: Elementary proficiency Russian: Elementary proficiency		
SERVICE	Program Committee: AAAI ’21 ’22; ACL ’18 ’20 ’21; ACL Rolling Review (since Nov 2021); COLING ’20; EACL ’21; EMNLP ’19 ’20 ’21; ICJNN’ 19; NAACL-HLT ’21; 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)		
RECENT PUBLICATIONS	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</i> , AAAI-22 2022 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)</i> , ECIR-2022 2022 Sheikh Muhammad Sarwar, Dimitrina Zlatkova, Momchil Hardalov , Yoan Dinkov, Isabelle Augenstein, and Preslav Nakov. A Neighbourhood Framework for Resource-Lean Content Flagging . <i>Transactions of the Association for Computational Linguistics, TACL</i> 2021 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</i> , EMNLP ’21 2021 Momchil Hardalov , Arnav Arora, Preslav Nakov, and Isabelle Augenstein. A Survey on Stance Detection for Mis- and Disinformation Identification . <i>arXiv preprint arXiv:2103.00242</i> 2021 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</i> , EMNLP ’20 2020 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 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</i> , RANLP ’19 2019		