

Daryna Dementieva

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Social Research Computing Group, CIT

Technical University of Munich (TUM)

Garching, Germany

RESEARCH INTERESTS

natural language processing for social good, fake news detection, multilingualism, hate speech combating, text detoxification, text style transfer, explainable AI

EDUCATION

November 2019 – September 2022

Ph.D. in Computer Science

Skolkovo Institute of Science and Technology (Skoltech), Moscow

Thesis: [Methods for Fighting Harmful Multilingual Information](#)

Supervisor: [Ass. Prof. Alexander Panchenko](#)

Links: [information](#) and [video](#) of the defense

September 2017 – August 2019

Master of Science in Applied Math and Physics

Moscow Institute of Science and Technology (MIPT), Moscow

Thesis: [News Aggregation and Personalization for Professional Groups](#)

Supervisor: [Prof. Konstantin Vorontsov](#)

September 2013 – August 2017

Bachelor of Science in Applied Math

Taras Shevchenko's Kyiv National University (KNU), Kyiv

EXPERIENCE

Postdoctoral Researcher

TUM

Jun 2022 - now

Munich

Teaching: Lab Courses, Bachelors, and Masters theses supervision; NLP lectures.

Research Projects: eXplainable AI (XAI) for NLP models; Safe and Fair Human-written and Machine-generated Texts; Multilingual and Ukrainian NLP.

Research Engineer

Skoltech

Mar 2021 - Mar 2022

Moscow

Leading the *Text Detoxification* project connected with PhD studies.

The results of the research were formed as 2 ACL papers, 1 journal paper, [RUSSE'22](#) shared task, and were deployed into [MTS.AI](#) chatbot.

Data Science Intern

Beiersdorf

Jun 2018 - Aug 2018

Hamburg

Concept design and prototype development of the automatic trends extractor from texts from social networks.

Data Scientist

Visiology

Aug 2017 - Aug 2019

Moscow

NLP2SQL: Chat-bot assistant for Business Intelligence.

The chat-bot was presented at Business Intelligence 2.0 conference (1.5k attendees) as the first Russian BI chat-bot and was deployed as [ViTalk](#).

SELECTED PUBLICATIONS (GOOGLE SCHOLAR)

D Dementieva, D Moskovsky, D Dale, A Panchenko, "Cross-lingual Text Style Transfer: The Case of Text Detoxification", *AACL 2023*

E Mosca, **D Dementieva**, T Ajdari, M Kummeth, K Gringauz, Y Zhou, G Groh, "IFAN: An Explainability-Focused Interaction Framework for Humans and NLP Models", *AACL 2023*

D Dementieva, M Kuimov, A Panchenko, “Multiverse: Multilingual Evidence for Fake News Detection”, *Journal of Imaging*, 2023

V Logacheva*, **D Dementieva***, S Ustyantsev, D Moskovskiy, D Dale, I Krotova, N Semenov, A Panchenko, “ParaDetox: Detoxification with Parallel Data”, *ACL*, 2022

D Dale, A Voronov, **D Dementieva**, V Logacheva, O Kozlova, N Semenov, A Panchenko, “Text Detoxification using Large Pre-trained Neural Models”, *EMNLP*, 2021

D Dementieva, D Moskovskiy, V Logacheva, D Dale, O Kozlova, N Semenov, A Panchenko, “Methods for detoxification of texts for the russian language”, *MDPI*, 2021

E Kasneci, K Seßler, S Küchemann, M Bannert, **D Dementieva**, F Fischer, ... G Kasneci. “ChatGPT for good? On opportunities and challenges of large language models for education”. *Learning and individual differences*, 2023

D Dementieva, A Panchenko, “Cross-lingual Evidence Improves Monolingual Fake News Detection”, *ACL SRW*, 2021

TALKS AND POSTERS

Adam-Smith at SemEval-2023 Task 4: Discovering Human Values in Arguments with Ensembles of Transformer-based Models

15 June, 2023, [ACL 2023](#), [SemEval Workshop](#), Toronto, Canada, **talk**

AdamR at SemEval-2023 Task 10: Solving the Class Imbalance Problem in Sexism Detection with Ensemble Learning

16 June, 2023, [ACL 2023](#), [SemEval Workshop](#), Toronto, Canada, **poster**

Methods for Fighting Harmful Multilingual Information

27 June, 2023, [Mannheim NLP Group](#), Mannheim, Germany, **talk**

Methods for Text Style Transfer: Text Detoxification Case

18 April, 2023, [PyCon&PyData](#), Berlin, Germany, **talk**

Methods for Fighting Harmful Multilingual Information

1 November, 2022, [Language Technology Group](#), Hamburg, Germany **talk**

NLP for Social Good: Methods for Fighting Harmful Multilingual Textual Content

26 October, 2022, [MunichNLP](#), Germany **talk**

Methods for Text Style Transfer: Text Detoxification Case

20 October 2022, [MilanoNLP](#), online **talk**

Methods for Fighting Harmful Multilingual Information

15 June 2022, [CIS LMU](#), Munich, Germany **talk**

A Study on Manual and Automatic Evaluation for Text Style Transfer: The Case of Text Detoxification

25 May 2022, [ACL 2022 HumEval Workshop](#), Dublin, Ireland **talk**

ParaDetox: Detoxification with Parallel Data

27 May 2022, [ACL 2022](#), Dublin, Ireland, **poster**

Fake News Detection using Multilingual Evidence

July 2021, [TrustWorthy AI](#), Moscow, Russia **talk**

Virtual Assistant ViTalk or Human Business Intelligence

May 2019, [DataFest](#), Moscow, Russia **talk**

TEACHING EXPERIENCE

NLP Lab Course, XAI for Machine Learning, TUM, 2022-2023: projects supervision.
Natural Language Processing, TUM, 2022-2023: lecturer.
Statistical NLP, Neural NLP, Skoltech, 2019-2021: seminars, projects supervision.

MENTORING

Diego Miguel Lozano (Masters, 2024, TUM) *“Explainable Textual Similarity Metrics via Equivalent and Erroneous Span Detection”* (ongoing)

Arda Andirin (Masters, 2024, TUM) *“Explainable Fact-Checking in News Datasets with Large Language Models”* (ongoing)

Shaghayegh Koli (Masters, 2024, TUM) *“Fake News and Machine-generated Text Detection for Persian and English”* (ongoing)

Valeriia Khylenko (Masters, 2024, TUM) *“Cross-lingual Text Classification Knowledge Transfer to Ukrainian language”* (ongoing)

Adam Rydelek (Masters, 2023, TUM) *“Sexism in Social Media – Explainable Detection Using Deep Learning Models”* ([paper](#))

Daniel Schroter (Masters, 2023, TUM) *“Discovering Human Values Behind Arguments – A Case for Transformer-based Models and Explainable AI”* ([paper](#), best paper nomination)

Yen-Yu Chang (Masters, 2023, TUM) *“Exploration of Approaches to Counter Hate Speech: The Case of Sexist Speech”*

Yuliana Poliakova (Bachelor, 2023, TUM) *“Detecting the Persuasion Techniques in Online News”*

Daniil Moskovsky (Masters, 2022, Skoltech) *“Supervised Text Detoxification Methods”* ([paper](#))

Mikhail Kuimov (Masters, 2022, Skoltech) *“Multilingual and Cross-lingual Approaches to Processing of News Texts”* ([paper](#))

OPENSOURCE CONTRIBUTION ([GITHUB](#)) ([HUGGINGFACE](#))

One of the admins of [s-nlp](#) with contributions:

- the first of its kind [En-](#) and [Ru-ParaDetox](#) datasets for text detoxification;
- English [roberta.toxicity_classifier](#) and Russian [russian.toxicity_classifier](#);
- SOTA text detoxification models for [English](#) and [Russian](#);
- SOTA multilingual formality [classifier](#).

All research about Text Detoxification project summarized at the [github](#) page.

Establisher of [tum-nlp](#) with contributions:

- SOTA human values [detector](#);
- target-aware counter speech [generator](#);
- sexism speech [detector](#).

Personal contribution to SOTA Ukrainian toxicity [detector](#).

All together >200k downloads.

PUBLIC SERVICE

Mentor in [Women In NLP, Munich](#) and [CyberMentor](#) to support young women in STEM education.

REVIEWER ARR: February, 2024, October 2023 ([exceptional reviewer](#)), August 2023, June 2023
ACL: 2023, 2022, 2021, 2020
EMNLP: 2023, 2022, 2021, 2020
LREC: 2024
ESWA: 2024
WOAH: 2023
HCI: 2023
VLDB: 2023, 2021
DSAA: 2020

SUMMER& WINTER SCHOOLS [ELLIS Summer School on Large-Scale AI for Research and Industry](#), Modena, Italy, September 2023
[Advanced Language Processing Winter School \(ALPS\)](#), Grenoble, France, January 2022
[Advanced Language Processing Winter School \(ALPS\)](#), Grenoble (online), France, January 2021
[The Machine Learning Summer School \(MLSS\)](#), Tübingen (online), Germany, June 2020

SELECTED HONORS &AWARDS **Joint India-Germany Research Grant, 2023:** topic “*Deep neural multilingual models to combat online hate content*”; funded stay at [Indian Institute of Technology, Kharagpur](#).
Skoltech Highest Scholarship 2022-2023 for the high research achievements. (top 1%)
Junction 2021, Empathy Challenge: *third prize*. The adaptation of text detoxification research results for a gaming industry use-case.
Junction 2019, Ericsson Challenge: *second prize*. The algorithm development for optimal client-taxi matching and transportation around the city.
P&G 2018 IT Business Challenge: grant *winner* to represent East Europe region at the in-person 5-day challenge in Athens, Greece.
Innopolis 2015 Programming Contest: *winner*; educational grant award. (top 1%)

INTERESTS athletics, yachting, (wind)surfing, skiing, psychology, feminism

LANGUAGES **Ukrainian:** native
Russian: native
English: professional
German: intermediate