

Taisiya Glushkova

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I am a ML/NLP engineer working on fundamental challenges in natural language understanding, including Machine Translation (MT), Evaluation, and more recently Large Language Models. I recently completed a PhD where I developed robust evaluation methods and uncertainty estimation techniques for production ML systems. This combination of academic research and hands-on engineering experience has equipped me with deep expertise in building reliable, scalable ML solutions while ensuring their robustness and fairness. Driven by the ongoing advancements in AI, I thrive on exploring the latest ML/DL tools, taking ownership of projects, and contributing to impactful work across various domains.

Based in Lisbon, Portugal. Hold a valid Portuguese residency permit, allowing work authorization. Open to relocation if needed.

Technical Skills

- Deep Learning, Machine Learning, Natural Language Processing.
- Fluent in Python, with minor experience with R and C++. Experience with DL frameworks: PyTorch, Keras.
- Proficient with common data science libraries such as NumPy, Pandas, Matplotlib, NLTK, Scikit-learn, and HuggingFace.
- Experience with LLM fine-tuning (LoRA, QLoRA), memory optimization, and transformer-based architectures.
- Comfortable with common data science tools, e.g. bash, git, Linux, slurm, SQL, Jupyter, AWS (EC2, S3, SageMaker), WandB.

Education

PhD in Computer Science and Engineering , Instituto Superior Técnico	Lisbon, Portugal
Thesis title: Uncertainty Estimation and Robustness in Machine Translation Evaluation	2020 – 2024
Collaborative projects: MAIA (Multilingual AI Agent Assistants), NextGenAI (Center for Responsible AI)	
MSc in Computer Science , HSE University	2018 – 2020
BSc in Applied Mathematics and Computer Science , HSE University	2014 – 2018

Work Experience

Polynome , ML Engineer	Dubai, UAE (remote) Present
Working on adapting Large Language Models (LLMs) for high-quality machine translation between low-resource languages , focusing on efficient fine-tuning methods and evaluation approaches. <ul style="list-style-type: none">• Engineered a memory-efficient fine-tuning pipeline using LoRA adaptation, implementing custom training infrastructure and evaluation metrics (BLEU, COMET) to enable robust neural machine translation between Russian and Kazakh languages.	
Instituto Superior Técnico , PhD Researcher	Lisbon, Portugal 2020 – 2024
Led research on uncertainty estimation for efficient machine translation (MT) evaluation , resulting in the development of more robust evaluation models, under the supervision of André F. T. Martins . <ul style="list-style-type: none">• Contributed to extending COMET, state-of-the-art MT evaluation metric, with uncertainty measurement feature.• Provided mentorship to junior PhD students, offering guidance on their research projects, enhancing their academic writing skills and facilitating regular feedback sessions.	
Carnegie Mellon University , Research Intern	Pittsburgh, USA Summer 2022
Developed robust and interpretable MT evaluation methods under the supervision of Alon Lavie . <ul style="list-style-type: none">• Collaborated with Unbabel on WMT Shared Tasks, securing second place in Metrics and winning the Quality Estimation task.• Contributed to strategic planning and execution of research initiatives, aligning research goals with business objectives.	
Digital Decisions , ML Engineer – Project Manager	Moscow, Russia 2019 – 2020
Developed a hierarchical classification system for customer messages at Vkusvill , optimizing routing and response accuracy. <ul style="list-style-type: none">• Managed projects timelines, coordinated with stakeholders, and ensured deliverables met quality standards.	
Unbabel , Applied AI Research Intern	Lisbon, Portugal Summer 2019
Implemented language model-based data filtering for machine translation , improving data quality and translation accuracy. <ul style="list-style-type: none">• Enhanced translation model performance in several language pairs, leading to a higher customer satisfaction.	
HSE University , Research Intern	Moscow, Russia 2019 – 2020
Developed DaNetQA, a reproducible yes/no question-answering corpus , and applied transfer learning methods for task and language adaptation using multilingual fine-tuning and related sentence modeling tasks.	
Diginetica , Junior Data Scientist/Engineer	Moscow, Russia 2017
Created a tool for generating concise summaries from product reviews.	
Developed a spell checker for search queries , enhancing correction suggestions for leading Russian eCommerce retailers. <ul style="list-style-type: none">• Improved search accuracy, enhancing user experience and engagement, resulting in 12% growth in search revenue.	

- Conducted data-driven analysis and prioritized backlog tasks to ensure efficient management and delivery.

Yandex, Software Engineering Intern

Moscow, Russia | 2015

Implemented classification and ranking of multiple object definitions by user relevance.

Selected Publications

Uncertainty-Aware Machine Translation Evaluation

[[ACL Anthology](#), [slides](#)]

Taisiya Glushkova, Chrysoula Zerva, Ricardo Rei, André F. T. Martins

Presented at the *Sixth Conference on Machine Translation (WMT21) at EMNLP 2021*

EMNLP Findings 2021

Disentangling Uncertainty in Machine Translation Evaluation

[[ACL Anthology](#), [poster](#)]

Chrysoula Zerva, **Taisiya Glushkova**, Ricardo Rei, André F. T. Martins

EMNLP 2022

BLEU Meets COMET: Combining Lexical and Neural Metrics Towards Robust Machine Translation Evaluation

[[ACL Anthology](#), [poster](#)]

Taisiya Glushkova, Chrysoula Zerva, André F. T. Martins

EAMT 2023

COMET-22: Unbabel-IST 2022 Submission for the Metrics Shared Task

[[ACL Anthology](#), [poster](#)]

Ricardo Rei, José G. C. de Souza, Duarte Alves, Chrysoula Zerva, Ana C. Farinha,

Taisiya Glushkova, Alon Lavie, Luisa Coheur, André F. T. Martins

EMNLP WMT 2022, [Second place on the WMT 2022 Metrics shared task](#)

CometKiwi: IST-Unbabel 2022 Submission for the Quality Estimation Shared Task

[[ACL Anthology](#)]

Ricardo Rei, Marcos Treviso, Nuno M. Guerreiro, Chrysoula Zerva, Ana C. Farinha, Christine Maroti,

José G. C. de Souza, **Taisiya Glushkova**, Alon Lavie, Luisa Coheur, André F. T. Martins

EMNLP WMT 2022, [Winner of the WMT 2022 QE shared task](#)

Are References Really Needed? Unbabel-IST 2021 Submission for the Metrics Shared Task

[[ACL Anthology](#)]

Ricardo Rei, Ana C. Farinha, Chrysoula Zerva, Daan van Stigt, Craig Stewart, Pedro G. Ramos,

Taisiya Glushkova, André F. T. Martins, Alon Lavie

EMNLP WMT 2021

Teaching

Instituto Superior Técnico

Lisbon, Portugal

Teaching Assistant for Deep Learning course

2021 – 2022

HSE University

Moscow, Russia

Teaching Assistant for Natural Language Processing (NLP) course

2018 – 2019

Teaching Assistant for Python course

2016 – 2018

University Projects

Graduation Thesis (MSc), DaNetQA: a Dataset for Binary Question Answering in Russian

2019 – 2020

Coursework, Detecting Uncertain Information in Natural Language Texts

2018 – 2019

Graduation Thesis (BSc), Character Level Models for Hashtag Segmentation

2017 – 2018

Coursework, Collecting Dictionaries for Sentiment Analysis of Reviews

2016 – 2017

Coursework, Extracting Timestamps from News in English Language

2015 – 2016

Extracurricular Activities

Participated in a poster session at [Center for Responsible AI | Demo Day](#)

June 2024

Mentored junior PhD students, providing guidance on research projects and academic writing

2023-2024

Participated in a poster session at [CMU Portugal 2022 Summit](#)

November 2022

Participated in LxMLS (8th Lisbon Machine Learning School)

Summer 2018

Freshmen student advisor: helped students to choose courseloads and adjust to university life

2015 – 2017

Organized university-wide events such as the Annual Open House

2015