Aida Usmanova

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EDUCATION

Leuphana University of Lüneburg **Lüneburg, Germany**
Ph.D. Natural Sciences *Nov 2023 - Nov 2026*
Current research on NLP, sustainability and knowledge graphs

University of Hamburg **Hamburg, Germany**
MSc. Intelligent Adaptive Systems *Nov 2020 - Sep 2023*
Research work presented at Bonn Sustainable AI Conference 2023

Kazakh British Technical University **Almaty, Kazakhstan**
BTech Information Systems, cum laude *Aug 2016 - Jul 2020*

EMPLOYMENT

UNSSC **Apr 2023 - Present**
AI and Learning Analytics Consultant
- Collaborated with cross-functional teams of engineers and e-learning experts to develop better learning experience
- Leveraged MySQL, Python, Informatica and internal tools to perform ad-hoc queries, merge data from multiple sources and improve reporting system

Fraunhofer IAPT **Nov 2021 - Oct 2023**
Student Research Assistant
- Led a Python and QML-based software development for robot-assisted additive manufacturing control and monitoring system
- Digitized additive manufacturing process by designing and developing an automated dashboard
- Conducted training sessions for interns and business users

Adalab.ai **Nov 2022 - Aug 2023**
Machine Learning Engineer
- Optimized performance and prediction accuracy through thorough data engineering and machine learning techniques
- Enhanced AI-assisted video generation by utilizing state-of-the-art Deep Learning for prompt engineering, e.g. Transformers, GPT-3

Codebusters **Jul 2019 - Jan 2021**
Junior Backend Developer
- Developed secure Django-based backend for software that's currently being used by the largest retailer in Kazakhstan
- Enhanced monitoring system for railways company by building modular and scalable backend for automated dashboards using Neo4J
- Engaged with clients to understand project requirements and provide progress updates and incorporated feedback to meet client expectations

PUBLICATIONS

- Aida Usmanova and Ricardo Usbeck, "Structuring Sustainability Reports for Rnvironmental Standards with LLMs guided by Ontology", in Natural Language Processing meets Climate Change @ ACL 2024.
- D. Amangeldi, A. Usmanova and P. Shamoi, "Understanding Environmental Posts: Sentiment and Emotion Analysis of Social Media Data," in IEEE Access, doi: 10.1109/ACCESS.2024.337158.

RESEARCH WORK

Accounting Carbon Emissions of LLMs during Fine-Tuning
Calculated and analysed carbon emissions produced during the knwoledge infusion and fine-tuning stages of the T5 model applied in Commonsense Question-Answering task.

Technologies

- Python, SQL, QML, QT, Django, PyTorch, SciKit, LangChain, OWL, Celery, MongoDB