

# Mumtozbek Akhmadjonov

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## Education

### Moscow Institute of Physics and Technology

M.S. in Computer Science and Data Science

Sep. 2023 - Aug. 2025

Relevant Courses: Deep Learning, Computer Vision, Natural Language Processing

GPA: 5.0/5.0, Top-1% of the class

B.S. in Computer Science and Applied Mathematics

Sep. 2019 - Aug. 2023

Relevant Courses: Algorithms and Data Structures, Linear Algebra, Calculus I and II, OOP (C++),  
Convex Optimizations, Probability Theory and Mathematical Statistics, Random Processes

## Experience

### Yandex

#### ML Engineer

Jan. 2024 - Present

- Developing large visual-language models.
- Reproduced ShareGPT4V VLM and further enhanced it.

#### Intern ML Engineer

Sep. 2023 - Dec. 2023

- Finetuned Llama 2 in a multimodal setting using speech tokens from both CommonVoice and CoVoST2 datasets to make ASR and AST. Achieved a BLEU score similar to Google's AudioPaLM-1 8B on CoVoST2.
- Introduced GPTQ, a SotA int4 quantization algorithm, for the Seq2Seq ASR model from the production increasing it's quality (WERp -2.87% on hard samples) and inference speed. Reduced the required GPU memory by 3 times.

### DeepPavlov

#### Junior DL Researcher

Sep. 2022 - Jul. 2023

- Developed approaches to evaluate and enhance Dialogue Graph Auto-Construction (DGAC) method on different dialogue datasets. Co-authored a paper accepted to AINL 2023.
- Outperformed the approach described in the [paper](#) on user attribute extraction and inference from dialogues with SOTA transformer architectures.

#### Research Intern

Feb. 2022 - May. 2022

- Achieved a similar performance using DialoGPT with special tokens to the [approach](#) leveraging projected attention layers to control different dialogue attributes. Reviewed dozens of articles on the related topics on ArXiv.

## Publications

### XXV International Conference on Neuroinformatics

- Co-authored a conference paper about dialogue response selection enhancement using conversational graphs.

### Neuroinformatics 2022 NN workshop

- Presented a poster describing controllable DialoGPT.

## Projects

### RLHF for GPT2

- My attempt to align GPT2 using PPO, DPO and SFT on different datasets, and serve the aligned models using FastAPI and gRPC.

### PEFT for BERT

- My attempt to fine-tune BERT-like models on MLM task using HuggingFace PEFT.

### Controllable DialoGPT

- Flask API to serve a chat model trained in [this notebook](#).

## Skills

### Languages:

Python, C, C++, Java

### Technologies & Tools:

PyTorch, PyTorch Lightning, HuggingFace Transformers, Accelerate, PEFT, trl, scikit-learn, numpy, pandas  
matplotlib, Git, Docker, Flask, FastAPI, MapReduce (YTsaurus, Hadoop)

## Achievements

### OpenDoors International Student’s Olympiad 2023

- winner diploma in Math&AI track
- winner diploma in CS&DS track

### Skolkovo Hack 2022

- Top-4 with team "ProDaters".

### Tinkoff & MSU Math Contest 2021

- winner diploma

## Languages

Uzbek: Native	Russian: Bilingual Proficiency	English: C1	Spanish: A2
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## Job Preferences

### Data Science & Machine Learning Engineer/Researcher:

NLP, Computer Vision, Conversational AI, Generative models (GPT family)