Alexander Shirnin

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Education

National Research University HSE **2018 – 2022**
BS in Applied Mathematics and Informatics *GPA: 8/10*

National Research University HSE **2022 – 2024**
MS in Business Analytics and Big Data Systems

Work experience

HSE, Laboratory for Models and Methods of Computational Pragmatics **Oct 2021 - now**
Intern researcher

- Conducted research on adversarial attacks targeting Visual Question Answering multimodal models, evaluating their robustness and impact on performance.
- Authored and submitted a research paper titled "Analyzing the Robustness of Vision & Language Models" to the TASLP Q1 journal (on a review).

HSE **Jan 2023 - Mar 2023**
Junior Lecturer

- Teaching students Python language.

Conferences

CONDA competition for AJCAI 2022 workshop **2022**
Conference competition

- Achieved 2nd winner of Toxic Language Detection leaderboard, from the core level B conference (AJCAI), and got accepted the abstract publication.
- Trained JointBERT models ensemble for the toxic language detection (NER task).

Competitions

Stable Diffusion - Image to Prompts **2023**
Kaggle competition

- Trained CLIP vision models for the prediction of prompts embeddings, that were used for the generated images. Filtered the prompts from the dataset based on the cosine similarity.
- Won a silver medal on a Kaggle. Finished 33 out of 1231 teams, top 3%.

Toloka Visual Question Answering Challenge (WSDM Cup 2023) **2022**
Conference competition

- Developed the solution for finding objects boxes on photos by questions. Trained several Visual Question Answering models for a visual grounding task and used ViT CLIP for blending predictions.
- Improved quality from the 0.21 IoU (organizers baseline) to the 0.73 IoU.
- Finished 5th out of 49 participants on the leaderboard.

Google Universal Image Embedding **2022**
Kaggle competition

- Trained a CLIP ViT model with an arcface layer to get distant embeddings (metric learning) on a different images.
- Won a silver medal on a Kaggle. Finished 38 out of 1022 teams, top 4%.

Feedback Prize - Predicting Effective Arguments **2022**
Kaggle competition

- Trained a DeBERTa models ensemble for classifying essays arguments in 3 categories.
- Won a bronze medal on a Kaggle. Finished 135 out of 1557 teams, top 9%.

Skills

Programming languages: Python, SQL.
Python libraries: PyTorch, Pandas, Numpy, Scipy, Sklearn, XGBoost, Matplotlib.
Tools: Jupyter, LaTeX.
Kaggle: Competitions expert. 3 silver medals, 3 bronze medals.
Languages: English (advanced, IELTS 7.0), Russian (native speaker).