# ILYA DROBYSHEVSKIY

Moscow, Russia

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## Education

- **Higher School of Economics** — Moscow, Russia
  *Bachelor of Applied Mathematics and Computer Science; GPA: 7.50/10* — *Sep 2021 – Present*
  - **Specialization**: Machine Learning & Applications.
  - **Relevant courses**: Generative models based on Diffusion, DL in Audio, Bayesian Methods, Methods of Optimizations, Stochastic Calculus, Algorithms and Data Structures, Linear Algebra, Probability Theory and Statistics, Graph Theory, Abstract Algebra, Calculus.

## Experience

- **AIRI, Controllable Generative AI** — Moscow, Russia
  *Intern researcher* — *May 2024 – Present*
  - **Tasks**: Doing research in the field of FaceSwap via Diffusion Models and GANs supervised by Alanov Aibek.

## Teaching

- **Higher School of Economics** — Moscow, Russia
  *Teacher assistant* — *Sep 2022 – Present*
  - **Courses**: ML/DL, Matrix Computations, Linear Algebra, Calculus, Probability Theory and Statistics.

## Interests & Skills

- **Interests**: Diffusion Models, RL, Bayesian Methods, Audio, Interpretability of Neural Networks.
- **Skills**: Python, C++, PyTorch, Jax, Git, Docker, LaTeX.
- **Languages**: Russian (Native), English (Upper-Intermediate), Polish (Upper-Intermediate).

## Projects

- **DL in Audio**: Speech to Text with DeepSpeech2, Audio-Visual Speech Separation with RTFS-Net, Neural Vocoder with HiFiGAN.
- **FaceSwap via GANs**: My 3rd year coursework, in which we were researching some of FaceSwap methods and introduced the huge improvements for SOTA method.
- **Image Classifier**: In this competition I had to make a classifier for small images (40 x 40) but there were some limitations such as don't use pretrained models, use only authors data and don't resize up images. My model was taken 3rd place out of 119.
- **Generative Models**: My implementation of some generative models/pipelines such as autoencoder, StarGAN, VAE, DDPM, RAG.
- **DL**: Homeworks from DL course with implementations of PyTorch analogue(main classes and backpropagation), MLP, CNN, RNN and Transformer.
- **ML**: Homeworks from ML course with implementations of gradient boosting, logistic regression, SVM, some of RecSys, EM-algorithm, methods of clusterization, anomaly detection and kernel tricks.

## Achievements

- The best teacher assistant for the Matrix Computations course in the 2023/2024 academic year.