

Nikita Drobyshev

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I'm a **Machine Learning Engineer** at **Meta AI** London and a **Research Consultant** at **Imperial College London**, in both places in teams of [Maja Pantic](#). I am developing and innovating state-of-the-art deep learning methods on human avatars that can be used to improve user experience in various areas such as video conferencing, AR/VR, video games, and social networks, I also contribute to the scientific community, you can have a look at my latest project [MegaPortraits](#). Recently, I received a Master's degree in Deep Learning under supervision of [Evgeny Burnaev](#). During my master's I participated in projects with such topics as [Depth Enhancement](#), [Interpretation of 3D CNNs](#) and [Leaf disease segmentation](#).

PUBLICATIONS

Google Scholar: scholar.google.com/citations?user=itNst7wAAAAJ&hl=en

* denotes joint second co-authorship

MegaPortraits: One-shot Megapixel Neural Head Avatars,

ACMM 2022

Nikita Drobyshev, Jenya Chelishev, Taras Khakhulin, Aleksei Ivakhnenko, Victor Lempitsky, Egor Zakharov

[arXiv/code](#)

Laughing Matters: Introducing Laughing-Face Generation using Diffusion Models,

BMCV 2023

Antoni Bigata, Rodrigo Mira, **Nikita Drobyshev**, Konstantinos Vougioukas, Stavros Petridis, Maja Pantic

[arXiv](#)

Unpaired Depth Super-Resolution in the Wild, arXiv 2021

Aleksandr Safin, **Nikita Drobyshev***, Maxim Kan*, Oleg Voynov, Alexey Artemov, Alexander Filippov, Denis Zorin, Evgeny Burnaev

[arXiv/code](#)

Interpretation of 3D CNNs for Brain MRI Data Classification, AIST 2020

Maxim Kan, Ruslan Aliev, Anna Rudenko, **Nikita Drobyshev**, Nikita Petrashen, Ekaterina Kondrateva, Maxim Sharaev, Alexander Bernstein, Evgeny Burnaev

[arXiv/code](#)

PROFESSIONAL EXPERIENCE

2022 Oct - **Machine Learning Engineer, Meta AI**

Now

I am working on high-quality avatars for virtual and augmented reality, bringing the quality of human interaction with each other, as well as with artificial intelligence to a new level.

2022 Sep - **Research consultant, Imperial College London**

Now

I am engaged in research on generative models, specifically focusing on avatars driven by audio and video. My responsibilities include conducting experimental studies, authoring, and presenting papers at leading conferences.

- 2021 May - 2022 Sep **Research Scientist, [Samsung AI Center](#)**
I was working on the development of deep learning algorithms for photorealistic human head avatars. I developed a technology that gained worldwide recognition and published an article about it as a first author, which was accepted and presented at the top conference in its field.
- 2020 Sep - 2021 May **Machine Learning Engineer Intern, [Skolkovo Institute of Science and Technology](#)** · Part-time
In this project, I was responsible for creating and developing the biggest part of architecture and conducting experiments. Using a new architecture and a special training scheme proposed by me, we improved the quality of the depth data of mobile sensors, we obtain 40% improvement in performance, in terms of a perceptual metric.
- 2020 Aug - 2021 Apr **R&D Data Scientist, [Sber](#)**
By investigating the latest state-of-the-art method, using different architectures (such as Transformer, TCN, and others) and combining them together I developed a framework for 3D Multi- person human pose estimation using video flow from a single camera.
- 2018 Sep - 2020 Jan **Python Developer, [IVA Technologies](#)**
I was working on creating a compiler, as well as estimating the performance of the processor created by my company.

EDUCATION

- 2019 - 2021 **MSc in Data Science, [Skolkovo Institute of Science and Technology](#)**, advisor: [Evgeny Burnaev](#)
I worked on depth enhancement.
Distinction (GPA 3.86/4.0)
Skolkovo scholarship for excellent performance (**top 5% out of 250 students**)
- 2014 - 2018 **BSc in Applied mathematics and computer science, [National Research Nuclear University MEPhI](#)** (worked on time series)

TECHNICAL SKILLS

- **Deep Learning, Deep Neural Networks, Machine Learning, Modelling;**
- I'm fluent in **Python** and I used to code in C/C++, Java.
- I'm also fluent with common data science tools such as **NumPy, Matplotlib, Scikit-learn, Pandas.**
- I'm comfortable with the common data science environment e.g., **bash, git, Linux.**
- My primary deep learning framework is **PyTorch.**
- Comfortable with **GPU clusters and distributed training.**

CODE

- [MegaPortraits](#) - supplementary materials for our article [MegaPortraits: One-shot Megapixel Neural Head Avatars.](#)
- [Leaf-diseases-segmentation](#) - prediction of rust and scab diseases on trees.
- [InterpretableNeuroDL](#) - code for article [Interpretation of 3D CNNs for Brain MRI Data Classification.](#)

- [Unpaired Depth Super-Resolution in the Wild](#) - code of our article [Unpaired Depth Super-Resolution in the Wild](#))
- [Lenta Hack](#) - [Lenta Retail Hackaton Prize Winner](#), PageRank algorithm for detecting most relevant products for customer basket.