

Egor Burkov

Profile

- **I am** a computer vision researcher with a solid academic record and a rather diverse exposure (engineering, teaching, design, entrepreneurship etc).
- **I am looking for** a challenging research role in generative and/or 3D computer vision.

Experience

- 2023 **Meta Reality Labs – Zürich**, *Research Scientist Intern*
Made [large diffusion models for image generation \(Emu\)](#) work with less steps (= faster).
- 2018–21 **Samsung AI Center – Moscow**, *Research Scientist*
Researched human capture in a broad sense [for AR/VR telepresence](#).
Implemented software demos, presented at top conferences, led small teams.
Example project: [head animation with latent pose vectors](#).
- 2015–17 **VisionLabs**, *Research Engineer*
Optimized vision algorithms in C and CUDA.
Improved and compressed neural nets by studying and implementing latest research.
Example projects: real-time facial keypoint detection on smartphones; [OpenCV bindings for Lua \(Torch\)](#).

Formal Education

- 2018–24 **PhD in Computer Science**, [Skoltech](#), supervised by [Victor Lempitsky](#)
Thesis: *Learning from Data for Human Modeling and Tracking*.
Many entrepreneurship courses, presented own project at [SLUSH](#). Taught 8 and authored 3 courses.
Built and managed research group's [DIY GPU cluster](#).
- 2016–18 **MSc in Computer Science**, [Skoltech](#), with distinction
Thesis: *Deep Neural Networks with Box Convolutions*, accepted to NeurIPS.
- 2012–16 **BSc in Computer Science**, [HSE University](#)
Thesis: *ConvNet-based Human Segmentation Using Background Subtraction Map*.
Many academic performance scholarships.

Selected Publications

- [Neural Head Reenactment with Latent Pose Descriptors](#). CVPR 2020. E. Burkov et al.
- [Multi-NeuS: 3D Head Portraits from Single Image with Neural Implicit Functions](#). IEEE Access 11, 2023. E. Burkov et al.
- [Learnable Triangulation of Human Pose](#). ICCV 2019. K. Isakov et al.
- [Deep Neural Networks with Box Convolutions](#). NeurIPS 2018. E. Burkov, V. Lempitsky
- [Textured Neural Avatars](#). CVPR 2019. A. Shysheya et al.
- [Few-Shot Adversarial Learning of Realistic Neural Talking Head Models](#). ICCV 2019. E. Zakharov et al.

Open-Source Software

- [Box convolution layer for PyTorch](#). ★ 511
- [Head reenactment with latent pose descriptors](#). ★ 181
- [Learnable human pose triangulation](#). ★ 1.1k
- [OpenCV bindings for Torch \(Lua\)](#). ★ 209

Everything Else

- Engineering passions: fast / high-performance computing, embedded systems, clean interfaces.
- AI research passion: self-supervised learning.
- Long-term public good goal: alleviate suffering via education.