Egor Burkov

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GitHub, *Google Scholar*

Profile

- I'm a computer vision researcher, currently focused on human-centric applications in 3D.
- Aside from this, I'm a computer science enthusiast and I love fixing people's problems; thus, I'm into: product design, teaching, beautiful code, interfaces, creating product prototypes and tools for other engineers.

Work Experience

2018–21 **Samsung AI Center – Moscow**
Researching human pose in a broad sense for AR/VR telepresence.
Most representative project: latent pose vectors for head reenactment.

2015–17 **VisionLabs**
Optimizing computer vision algorithms in C and CUDA. Enhancing, training and compressing ConvNets.
Example project: realtime facial keypoint detection on mobile devices.
OpenCV bindings for Torch open source project for Facebook.

Education

2018–Dec '23 (expected) **PhD in Computer Science**, *Skoltech*
Human-centric computer vision, focused on telepresence applications and general pose estimation.
Current project: single-view 3D head reconstruction with NeRF-like models.

2016–18 **MSc in Computer Science**, *Skoltech*, with distinction
Thesis: *Box Convolution Layer for Deep Neural Nets*, accepted to NeurIPS.

2012–16 **BSc in Computer Science**, *HSE University*
Thesis: *ConvNet-based Human Segmentation Using Background Subtraction Map*.

Selected Publications

- **Multi-NeuS: 3D Head Portraits from Single Image with Neural Implicit Functions**. arXiv 2022. E. Burkov et al.
- **Neural Head Reenactment with Latent Pose Descriptors**. CVPR 2020. E. Burkov et al.
- **Learnable Triangulation of Human Pose**. ICCV 2019. K. Iskakov et al.
- **Deep Neural Networks with Box Convolutions**. NeurIPS 2018. E. Burkov, V. Lempitsky
- **Textured Neural Avatars**. CVPR 2019. A. Shysheya et al.

Everything Else

- Python, C, C++, Lua; Mandatory tools: Linux, Git, Docker, Travis CI, web app prototyping etc.
- Engineering passions: parallel / high-performance computing, embedded systems.
- Machine learning research passion: self-supervised learning.