Egor Zakharov, Ph.D.

Postdoctoral researcher
ETH Zurich
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Personal e-mail: eo.zakharov@gmail.com
Full list of publications: Google Scholar
Citizenship: Russian Federation
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EDUCATION

Ph.D., Computational Science and Engineering 2018 – 2023
Skolkovo Institute of Science and Technology
Advisor: *Victor Lempitsky*
Thesis: "Synthesis of Human Face and Body Images via Generative Adversarial Networks"

M.Sc., Informational Technology 2016 – 2018
Skolkovo Institute of Science and Technology
Advisor: *Victor Lempitsky*

B.Sc., Applied Mathematics and Computer Science 2011 – 2016
Lomonosov Moscow State University
Advisor: Leonid Mestetsky

RESEARCH EXPERIENCE

Postdoctoral Researcher, *ETH Zurich* 2023 – Now

- The main topic of my postdoc is the development of physics-based rendering and simulation methods for the problems of 3D reconstruction from image and video-based data

Lead Engineer, *Samsung AI Center – Moscow* 2018 – 2023

- Worked on the problems of reconstruction and rendering of human head avatars
- Co-authored seven publications at CVPR, ECCV, ICCV, and ACM MM: two as a first author and three as a last (corresponding) author.

Graduate Student, *Skolkovo Institute of Science and Technology* 2017 – 2018

- Applied generative adversarial models for simulation of data from LHCb detector at CERN and the problem of image attributes editing.
- Co-authored two publications: one as a joint first author at ECCV and one presented at ICHEP.

AWARDS

Altmetric Top 100 – Highest scoring paper in the rating history, #1 in 2019

Samsung Best Paper Award 2019 – Silver award

Outstanding reviewer – ECCV 2020

PUBLICATIONS

1. **D. Sungatulina***, **E. Zakharov***, D. Ulyanov, V. Lempitsky, “Image Manipulation with Perceptual Discriminators”, Proceedings of the 15th European Conference on Computer Vision (**ECCV**), 2018. (*** contributed equally to this study**)
2. A. Shysheya, **E. Zakharov**, R. Bashirov, I. Pasechnik, E. Burkov, D. Ulyanov, Y. Malkov, K. Iskakov, A. Aliev, A. Ivakhnenko, A. Vakhitov, V. Lempitsky, “Textured Neural Avatars”, Proceedings of 2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2019. **Oral presentation, top 5.6% of the submissions.**
3. **E. Zakharov**, A. Shysheya, E. Burkov, V. Lempitsky, “Few-shot Adversarial Learning of Realistic Neural Talking Head Models”, Proceedings of 2019 IEEE/CVF International Conference on Computer Vision (**ICCV**), 2019. **Oral presentation, top 4.6% of the submissions.**
4. **E. Zakharov**, A. Ivakhnenko, A. Shysheya, V. Lempitsky, “Fast Bi-layer Neural Synthesis of One-Shot Realistic Head Avatars”, Proceedings of the 16th European Conference on Computer Vision (**ECCV**), 2020.
5. N. Drobyshev, E. Chelishev, T. Khakhulin, A. Ivakhnenko, V. Lempitsky, **E. Zakharov**, “MegaPortraits: One-shot Megapixel Neural Head Avatars”, Proceedings of the 30th ACM International Conference on Multimedia (**ACMMM**), 2022.
6. T. Khakhulin, V. Sklyarova, V. Lempitsky, **E. Zakharov**, ***“****Realistic One-shot Mesh-based Head Avatars”*, Proceedings of the 17th European Conference on Computer Vision (**ECCV**), 2022.
7. A. Dogaru, A. Ardelean, S. Ignatyev, **E. Zakharov,** E. Burnaev, “Sphere-Guided Training of Neural Implicit Surfaces”, Proceedings of 2023 IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.
8. V. Sklyarova, J. Chelishev, A. Dogaru, I. Medvedev, V. Lempitsky, **E. Zakharov**, “Neural Haircut: Prior-Guided Strand-Based Hair Reconstruction”, to appear in the Proceedings of 2023 IEEE/CVF International Conference on Computer Vision (**ICCV**), 2023. **Oral presentation.**

PATENTS

1. A. Shysheya, **E. Zakharov**, R. Bashirov, I. Pasechnik, E. Burkov, D. Ulyanov, Y. Malkov, K. Iskakov, A. Aliev, A. Ivakhnenko, A. Vakhitov, V. Lempitsky, “Textured neural avatars”, **U.S. Patent US11367239B2**.
2. **E. Zakharov**, A. Shysheya, E. Burkov, V. Lempitsky, “Electronic device and controlling method thereof”, **U.S. Patent US20200302184A1**.
3. **E. Zakharov**, A. Ivakhnenko, A. Shysheya, V. Lempitsky, “Fast bi-layer neural synthesis of one-shot realistic images of neural avatar”, **WIPO Patent WO2021177596A1**.

ORAL PRESENTATIONS

1. “Few-shot Adversarial Learning of Realistic Neural Talking Head Models”, 2019 International Conference on Computer Vision (**ICCV**).
2. “Textured Neural Avatars”, 2019 Conference on Computer Vision and Pattern Recognition (**CVPR**).
3. “Neural Haircut: Prior-Guided Strand-Based Hair Reconstruction”, 2023 International Conference on Computer Vision (**ICCV**).