

Ivan Skorokhodov

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Work experience

- Jun 2023–
now **Research Scientist**, *Snap Research*, Dubai, UAE.
◦ Working on image/video/3D generative models.
- Mar 2020–
Mar 2023 **CS PhD student**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
◦ Built several GAN-based models for image/video/3D generation.
◦ Took courses on computer graphics, GPU programming, and machine learning.
◦ Served as a teaching assistant on 3 deep learning courses.
◦ Supervised by [prof. Peter Wonka](#) and [prof. Mohamed Elhoseiny](#).
- Jun 2022–
Oct 2022 **Research Intern**, *Snap Inc.*, Los Angeles, United States.
◦ Built a [3D-aware image generator](#) for in-the-wild data.
◦ Supervised by [Sergey Tulyakov](#) and [Aliaksandr Siarohin](#).
- Feb 2018–
Mar 2020 **Deep Learning Researcher**, *Moscow Institute of Physics and Technology*, Moscow, Russia.
◦ Developed multi-point optimization strategy to explore loss surfaces of neural networks. It resulted in a [NeurIPS 2019 optimization workshop paper](#).
◦ Built a text style transfer model by combining CycleGAN with Transformers. It was presented at art exhibitions in Moscow and Rio de Janeiro.
◦ Served as a teaching assistant (+ gave 2 lectures) on the “Theoretical Deep Learning” course.
- Sep 2019–
Dec 2019 **Visiting Student**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
◦ Explored initialization/normalization techniques in the context of zero-shot learning and continual learning (supervised by [prof. Mohamed Elhoseiny](#)). It resulted into an [ICLR 2021 paper](#).
- Mar 2015–
Oct 2016 **Software Engineer**, *Yandex*, Moscow, Russia.
◦ Developed the client side of the offer card for <https://market.yandex.ru>, which had >1M daily users.
◦ Performed different infrastructure/devops tasks (deployment, unit/integration/stress tests, etc).
◦ Implemented many product/infrastructure features for <https://market.yandex.ru> in js/node.js/css/xslt.
- Sep 2014–
Mar 2015 **Senior Software Engineer**, *Federal State Statistics Service*, Moscow, Russia.
◦ Built a web crawler for automatic dictionary generation: it parsed web pages on a specified topic, detected terms and definitions, categorized them, processed, and saved into the database.
- Jan 2014–
Sep 2014 **Full-Stack Software Engineer**, *Brainarium*, Moscow, Russia.
◦ Built a kaggle-like platform with node.js + marionette.js stack and all the required infrastructure.

Education

- Mar 2020–
Mar 2023 **King Abdullah University of Science and Technology**, *Thuwal, Saudi Arabia*.
Visual Computing Center, Ph.D. student, Computer Science. GPA: 3.92/4.
Supervisors: [prof. Peter Wonka](#) and [prof. Mohamed Elhoseiny](#).
- Sep 2018–
Jun 2021 **Yandex School of Data Analysis**, *Moscow, Russia*.
M.S. equivalent, Data Analysis in Applied Sciences. GPA: 4.77/5.
Thesis: Normalization Matters in Zero-Shot Learning.
Supervisor: [prof. Ilya Muchnik](#)
- Sep 2014–
Jul 2016 **Moscow Engineering Physics Institute (MEPhI)**, *Moscow, Russia*.
M.S., Applied Informatics. GPA: 4.78/5.
Thesis: Product Search Ranking with Neural Networks.
Supervisor: [prof. Anna Tikhomirova](#).
- Sep 2010–
Jul 2014 **Moscow Engineering Physics Institute (MEPhI)**, *Moscow, Russia*.
B.S. (with honors), Innovative Management. GPA: 4.88/5.
Thesis: Software Development Management Systems.
Supervisor: [prof. Igor Prokhorov](#)

Selected publications

- June 2024 **Hierarchical Patch-wise Diffusion Models for High-Resolution Video Synthesis**, *CVPR 2024*.
Ivan Skorokhodov, Aliaksandr Siarohin, Willi Menapace, Sergey Tulyakov
- June 2024 **SnapVideo: Scaled Spatiotemporal Transformers for Text-to-Video Synthesis**, *CVPR 2024*.
Willi Menapace, Aliaksandr Siarohin, *Ivan Skorokhodov*, Ekaterina Deyneka, Tsai-Shien Chen, Anil Kag, Yuwei Fang, Aleksei Stoliar, Elisa Ricci, Jian Ren, Sergey Tulyakov [\[paper\]](#) [\[website\]](#)
- Apr 2023 **3D generation on ImageNet**, *ICLR 2023 (Oral)*.
Ivan Skorokhodov, Aliaksandr Siarohin, Yinghao Xu, Jian Ren, Hsin-Ying Lee, Peter Wonka, Sergey Tulyakov
[\[paper\]](#) [\[website\]](#) [\[code\]](#)
- Jun 2022 **EpiGRAF: Rethinking training of 3D GANs**, *NeurIPS 2022*.
Ivan Skorokhodov, Sergey Tulyakov, Yiqun Wang, Peter Wonka
[\[paper\]](#) [\[website\]](#) [\[code\]](#)
- Nov 2021 **StyleGAN-V: A Continuous Video Generator with the Price, Image Quality and Perks of StyleGAN2**, *CVPR 2022*.
Ivan Skorokhodov, Sergey Tulyakov, Mohamed Elhoseiny
[\[paper\]](#) [\[website\]](#) [\[code\]](#)
- Jun 2021 **Adversarial Generation of Continuous Images**, *CVPR 2021*.
Ivan Skorokhodov, Savva Ignatyev, Mohamed Elhoseiny
[\[paper\]](#) [\[website\]](#) [\[code\]](#)
- Dec 2019 **Loss Surface Sightseeing by Multi-Point Optimization**, “Beyond First Order Methods in ML” workshop, *NeurIPS 2019*.
Ivan Skorokhodov, Mikhail Burtsev
[\[paper\]](#) [\[website\]](#) [\[code\]](#)

Awards

- June 2022 **Dean’s List Award**, *KAUST CEMSE department*, Thuwal, Saudi Arabia.
A \$2,500 award given to top students by [CEMSE division](#) for their academic achievements.

Talks

- May 2023 **3D generation on ImageNet, Kigali, Rwanda**.
“Generative Models” session, [ICLR 2023](#)
- April 2023 **Generative Models for Neural Fields, online (recording)**.
[Toronto AI in Robotics Seminar](#), University of Toronto
- June 2022 **Deep Generative Models over Continuous Data, online**.
[Vision and AI seminar](#), [Weizmann Institute of Science](#)

Teaching experience

- Fall 2021 **Teaching assistant**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
“Data-Efficient Deep Learning” course, taught by [prof. Mohamed Elhoseiny](#).
- Spring 2021 **Teaching assistant**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
“Deep Generative Models” course, taught by [prof. Mohamed Elhoseiny](#).
- Fall 2020 **Teaching assistant**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
“Data-Efficient Deep Learning” course, taught by [prof. Mohamed Elhoseiny](#).
- Fall 2019 **Teaching assistant**, *Moscow Institute of Physics and Technology*, Moscow, Russia.
“Theoretical Deep Learning” course (part II), taught by [Evgeniy Golikov](#).

Spring 2019 **Lecturer/Teaching assistant**, *Moscow Institute of Physics and Technology*, Moscow, Russia.
“Theoretical Deep Learning” course (part I), taught by [Evgeniy Golikov](#).
My lecture notes on Information Bottleneck can be viewed [\[here\]](#).

Reviewing

Conferences CVPR 2022, ECCV 2022, SIGGRAPH Asia 2022, ICLR 2023, CVPR 2023 (outstanding reviewer), ICCV 2023, NeurIPS 2023, ICLR 2024, CVPR 2024, SIGGRAPH 2024, ICML 2024
Journals IJCV

Selected side projects

Sep 2020– **RtRs** [\[github\]](#).

Dec 2020 Simple ray tracing and rasterization engine written in [rust](#). There are various features implemented: quadrics/mesh rendering, distributed ray tracing, camera movement, arcball controls, etc.

Dec 2020 **Gaussian Non-Uniform Interpolation** [\[github\]](#) [\[paper\]](#).

A CUDA kernel that is able to interpolate points on a non-uniform grid. This is done by representing each point as a 2D gaussian distribution.

Nov 2018– **Firelab** [\[github\]](#).

Aug 2020 Python framework for running pytorch experiments. Supports multi-gpu hyperparameters optimization, training class boilerplate, tensorboard logging, etc.

Oct 2016– **Aladdin** [\[github\]](#).

Mar 2017 A betting arbitrage bot written in [rust](#).

May 2016 - **Omniplan Web** [\[github\]](#).

Aug 2016 A web interface for [omniplan](#) platform written with [react.js](#).

Skills

Coding python, rust, CUDA, C++, javascript

ML/DL libs torch, torchvision, tensorflow, sklearn, pandas, numpy

Miscellaneous docker, git, bash, \LaTeX

Hackathon awards

Nov 2018 **Junction**, *SAP incentive award*, [Junction Team](#), Espoo, Finland.

Jun 2018 **BlockchainHack**, *1st place*, Blockchain Institute, Moscow, Russia.

Feb 2018 **Unsupervised Machine Translation**, *2nd place*, [MIPT](#), Dolgoprudny, Russia.

Aug 2017 **FunHack**, *some minor prize*, Science Guide, Moscow, Russia.

Nov 2016 **VK hackathon**, *1st place + people's choice award*, [VK](#), Saint-Petersburg, Russia.

Nov 2016 **BEM hackathon**, *1st place*, [Yandex](#), Moscow, Russia.