

Ivan Skorokhodov

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 universome

Work experience

- Mar 2020– **CS PhD student**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
- Mar 2023
- 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– **Research Intern**, *Snap Inc.*, Los Angeles, United States.
- Oct 2022
- Built a [3D-aware image generator](#) for in-the-wild data.
 - Supervised by [Sergey Tulyakov](#) and [Aliaksandr Siarohin](#).
- Feb 2018– **Deep Learning Researcher**, *Moscow Institute of Physics and Technology*, Moscow, Russia.
- Mar 2020
- 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– **Visiting Student**, *King Abdullah University of Science and Technology*, Thuwal, Saudi Arabia.
- Dec 2019
- 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– **Software Engineer**, *Yandex*, Moscow, Russia.
- Oct 2016
- 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– **Senior Software Engineer**, *Federal State Statistics Service*, Moscow, Russia.
- Mar 2015
- 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– **Full-Stack Software Engineer**, *Brainarium*, Moscow, Russia.
- Sep 2014
- Built a kaggle-like platform with node.js + marionette.js stack and all the required infrastructure.

Education

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

Selected publications

- Apr 2023 **3D generation on ImageNet, ICLR 2023 (Oral).**
Ivan Skorokhodov, Aliaksandr Siarohin, Yinghao Xu, Jian Ren, Hsin-Ying Lee, Peter Wonka, Sergey Tulyakov
[\[paper\]](#)
- 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 [\[here\]](#).

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

Reviewing

- Conferences CVPR 2022-2023, ECCV 2022, ICLR 2023, ICCV 2023, NeurIPS 2023, SIGGRAPH Asia 2022
- Journals IJCV

Hackathons 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.