Ivan Skorokhodov

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Work experience

Jun 20, 2022–Oct 7, 2022
Research Intern, *Snap Inc.*, Los Angeles, United States.
○ Built a 3D-aware image generator for in-the-wild data.
○ Supervised by Sergey Tulyakov.

Mar 7, 2020–now
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.

Feb 1, 2018–Mar 1, 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 into a NeurIPS 2019 optimization workshop paper.
○ Built a text style transfer model by combining CycleGAN with Transformers. It was presented on art exhibitions in Moscow and Rio de Janeiro.
○ Served as a teaching assistant (+ gave 2 lectures) on the "Theoretical Deep Learning" course.

Sep 29, 2019–Dec 29, 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 30, 2015–Oct 15, 2016
Software Engineer, *Yandex*, Moscow, Russia.
○ Developed the offer card for https://market.yandex.ru (its front-end part), which has been viewed daily by more than 1 million of people.
○ Performed different infrastructure/devops tasks (deployment, unit/integration/stress tests, etc).
○ Implemented a lot of small product and 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–now
King Abdullah University of Science and Technology, *Thuwal, Saudi Arabia*.
Visual Computing Center, PhD student, Computer Science. GPA: 3.92/4.
Supervisor: prof. Peter Wonka.

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), Innovation 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]

Oct 2021   **Aligning Latent and Image Spaces to Connect the Unconnectable**, *ICCV 2021*.
Ivan Skorokhodov, Grigorii Sotnikov, Mohamed Elhoseiny
[paper] [website] [code]

Jun 2021   **Adversarial Generation of Continuous Images**, *CVPR 2021*.
Ivan Skorokhodov, Savva Ignatyev, Mohamed Elhoseiny
[paper] [website] [code]

May 2021   **Class Normalization for (Continual?) Zero-Shot Learning**, *ICLR 2021*.
Ivan Skorokhodov, 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]

Mar 2018   **Semi-Supervised Neural Machine Translation with Language Models**, *AMTA workshop, ACL 2018*.
Ivan Skorokhodov, Anton Rykachevskiy, Dmitry Emelyanenko, Sergey Slotin, Anton Ponkratov
[paper] [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

June 2022   **Deep Generative Models over Continuous Data**, *Vision and AI seminar, Weizmann Institute of Science*, online.

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– Dec 2020	**RtRs** [github]. 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 which is able to interpolate points on a non-uniform grid. This is done by representing each point as a 2D gaussian distribution.
Nov 2018– Aug 2020	**Firelab** [github]. Python framework for running pytorch experiments. Supports multi-gpu hyperparameters optimization, training class boilerplate, tensorboard logging, etc.
Oct 2016– Mar 2017	**Aladdin** [github]. A betting arbitrage bot written in rust.
May 2016 - Aug 2016	**Omniplan Web** [github]. A web interface for omniplan platform written with react.js.

Tech skills

Coding	python, rust, CUDA, C++, javascript
ML/DL libs	torch, torchvision, tensorflow, sklearn, pandas, numpy
Miscellaneous	docker, git, bash, LaTeX

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.