Aram Davtyan

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Education

2020-present	**University of Bern**, *Computer Vision Group*, PhD in Computer Science.
2014-2020	**Lomonosov Moscow State University**, *Specialist degree*, Faculty of Mechanics and Mathematics, Department of Function Theory and Functional analysis. GPA 4.98 (top 10 out of 250 students)
2016-2018	**Yandex School of Data Science**, *Department of Data Analysis*.
2020	**Winter school "Math of machine learning 2020"**, Intense four-day workshop consisting of 3 interdisciplinary mini-courses by world-class scientists.

Job Experience

2017-2021	**Inline group**, *resource center specialist*, Applying machine learning to various problems in oil industry. collecting and preprocessing data, negotiating with the customers
2019-2020	**Yandex**, *software engineer*, Developing the backend of a high-load service (Yandex.Navigator) responsible for building optimal routes in the automobile graph with respect to the realtime traffic. implementing algorithms on road graphs, improving quality of the service via supervised and reinforcement learning techniques

Teaching Experience

2020-present	**University of Bern**, Teaching assistant of Machine Learning and Deep Learning courses.
2021	**Yandex School of Data Science**, Conducted a seminar on Self-Supervised learning in Computer Vision.
2018-2021	**Yandex School of Data Science**, Supervised a group of students in their research in statistical methods applied to the oil industry.

Research Experience

2020-present	As a part of Computer Vision Group in the University of Bern doing research in unsupervised learning of object interactions in the videos under the supervision of Prof. Dr. Paolo Favaro
2018-2020	Research in spectral analysis of the operator in generalized 't Hooft model under the supervision of Prof. Dr. Sheipak I.A.
2017-2018	Thesis project "Optimization of oil production via construction of forecast models on injection wells operation modes" for Yandex School of Data Science under the supervision of Prof. Muchnik I.B.
	Author and owner of the patent RU 2 701 761 C1 "Control method of oil production at mature separate oil deposit"

Publications

2022   Aram Davtyan and Paolo Favaro. Controllable Video Generation through Global and Local Motion Dynamics. In Proceedings of the 17th European Conference on Computer Vision. https://arxiv.org/abs/2204.06558

2022   Aram Davtyan, Sepehr Sameni, Llukman Cerkezi, Givi Meishvili, Adam Bielski, Paolo Favaro. KOALA: A Kalman Optimization Algorithm with Loss Adaptivity. In Proceedings of the 36th AAAI Conference on Artificial Intelligence. https://doi.org/10.1609/aaai.v36i6.20599

2020   Aram Davtyan, Alexander Rodin, Ilya Muchnik, Alexey Romashkin. Oil production forecast models based on sliding window regression. Journal of Petroleum Science and Engineering, Volume 195, 2020, 107916, ISSN 0920-4105. https://doi.org/10.1016/j.petrol.2020.107916.

Other Experience

2014-2018   Organizer of «Matprazdnik» (a math olympiad for 1000+ high school students around Russia) graded their work and distributed the prizes

Skills

Computer Skills   Algorithms and data structures, Machine Learning, Artificial Neural Networks and Computer vision

C/C++, Python (numpy, pandas, sklearn, etc)

Pytorch, Tensorflow, Keras

Basic skills in SQL, experienced in MapReduce

SVN, Git

Wolfram Mathematica, LaTeX

The basics of computer structure and UNIX operating system

Mathematics   Strong knowledge of functional analysis, probability theory, statistics

Achievements

Data Science   Case championship "Changellenge CupIT 2018" Data Science section (Winner)

English   Lomonosov Moscow State University VII Annual Conference for Students in English (2nd prize awarded, 2016)

Mathematics   University Olympiad in Topology and Differential Geometry (Prize 2015)

Physics   Participated in Russian Olympiad in Physics Finals (top-200 in Russia)

Personal information

Languages   English (fluent), German (B2), Russian (native), Armenian (mother language)

Hobbies   Sports (martial arts, rock climbing), playing guitar, reading