SERGEI VOLODIN

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EDUCATION

École Polytechnique Fédérale de Lausanne
Sep 2017 –
MSc in Computer Science,
Minor in Comput. Neurosciences *Lausanne, Switzerland*

- Relevant courses: Machine Learning, Software Engineering, Unsupervised and Reinforcement Learning in Neural Networks, Biological modeling of neural networks, Random graph theory, Functional Programming, Set Theory
- GPA: **5.61**/6.00

Moscow Institute of Physics and Technology
Sep 2012 – Jun 2017
BSc in Computer Science *Moscow, Russia*

- Relevant courses: Machine Learning (intro), Algorithms and Data Structures, Convex Optimization, Random Processes, Functional Analysis
- GPA: **4.84**/5.00

RESEARCH INTERESTS

1. Artificial Intelligence; Machine Learning
2. Mathematical Optimization
3. Robotics

RESEARCH EXPERIENCE

EPFL, CHILI lab Sep 2017 – present
Research Assistant *Lausanne, Switzerland*

- Created a library for seamless augmented reality using OpenCV and Qt
- Designed a learning activity involving augmented reality and robots for teaching math, conducted experiments, analyzed data

Skoltech, Energy Systems Sep 2016 – Jul 2017
Research Intern *Moscow, Russia*

- Examined in MATLAB and theoretically the structure of the set of boundary non-convexities of an image of a quadratic map
- Designed and implemented the CAQM library which gives approximate solutions to a number of problems involving quadratic maps

MIPT, Theoretical Mech. dpt. Oct 2012 – Feb 2013
Technician *Moscow, Russia*

- Designed and implemented numerical simulations for Euler's rotation equations
- Checked soundness of the approximation using symbolic computations in Wolfram Mathematica

PUBLICATIONS

A. Dymarsky, E. Gryazina, **S. Volodin,** B. Polyak.
Geometry of quadratic maps via convex relaxation.
arXiv:1810.00896, 2018

Volodin S., Popova M., Strijov V. Probabilistic prediction of nuclear receptors biological activity.
Proceedings of ITaS, 2016, *in Russian*

Petrov A., **Volodin S.** Janibekov's effect and the laws of mechanics. Doklady Akademii Nauk, 2013.

CONFERENCES

P.A.I.S.S. (AI Summer School) (INRIA Grenoble, 2018), *participant,* *selected to receive financial help*

DeepBayes school on Bayesian methods in Deep Learning (Moscow, 2017), *participant*

Information Technologies and Systems (Saint-Petersburg, Repino, 2016), *speaker*

SKILLS

Scientific programming: Keras, TensorFlow, Theano, scikit-learn, MATLAB, Mathematica, R

Languages: English (TOEFL iBT 112/120), French (beginner), Russian (native)

Programming: C/C++, Python, AVR C++, Scala, Java, nasm, C#

Frameworks: Qt/QML, Django, Android Studio, OpenGL/GLSL, Unity 3D

Environment: Git, LaTeX, Bash, Debian/Ubuntu Linux

SCHOLARSHIPS

Research Scholars at EPFL DCL Lab (2018)

Research Scholars at EPFL CHILI Lab (2017 – 2018)

Abramov Fund's, for excellent grades (2014)

OLYMPIADS AND HACKATHONS

DeepHack.RL hackathon (Deep RL for Atari games), MIPT, Moscow, Russia, 2017. 4th place.

PROJECTS

TechnoWorks 2012 – 2015
Quadcopter stabilization project

- Developed an algorithm in C++ for stabilization of a quadcopter drone
- Conducted the analysis of launches to improve flying quality
- Results were published in the Habrahabr CS blog
- Managed the community page at a social network

WORK EXPERIENCE

EscapeControl Jul 2015 – Feb 2016
C++, AVR, Linux *Moscow, Russia*

- Created a startup selling software&hardware framework for real-world escape games
- Created system architecture for the real-world escape room games (*in Russian*)
- Managed a team of two web developers
- More than twenty solutions sold, currently running in different countries

HOBBY

Running ($\frac{1}{2}$ marathon 2018), Snowboarding, Swimming

VOLUNTEERING

Anti-corruption foundation 2015 – 2017
Moscow, Russia

- Door-to-door campaign
- Street volunteer
- Rally participant