Sergei VOLODIN

sergei.volodin@epfl.ch +41 78 732 01 34
Route de la Chocolatière 29 A / 009, Échandens, Switzerland
Birth date: 3rd October 1994 (24 years), Russian

EDUCATION

Swiss Federal Institute of Technology in Lausanne (EPFL)
Lausanne, Switzerland Sep 2017 – June 2020

- Master's degree in Computer Science
- Minor in Computational Neurosciences
- GPA: **5.61**/6

Moscow Institute of Physics and Technology
Moscow, Russia June 2017

- Bachelor's degree im Applied Mathematics
- GPA: **4.84**/5

SKILLS

Team/Project management, research paper writing, data analysis, theory, conducting experiments

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

Relevant courses: Machine Learning (intro), Algorithms and Data Structures, Convex Optimization, Random Processes, Functional Analysis

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

RESEARCH EXPERIENCE

Swiss Federal Institute of Technology in Lausanne (EPFL), Distributed Computing Laboratory Research Assistant
Lausanne, Switzerland Sep 2018 – present

- Improved the probabilistic bound on error of a neural network in case of independent neuron failures
- Conducted experiments to test the improved theory using Keras and Tensorflow

EPFL, Computer-Human Interaction in Learning and Instruction laboratory Research Assistant
Lausanne, Switzerland Sep 2017 – Aug 2018

- Created a library QML-AR for seamless augmented reality using OpenCV with competitive performance on Android and small visual negative impact
- Designed an activity for learning math using the library, tested the application in a classroom setting, analyzed the obtained data

Skolkovo Institute of Science and Technology, Center for Energy Systems Research Intern
Moscow, Russia Sep 2016 – Jul 2017

- Characterized using numerical optimization and theoretically the structure of the set of boundary non-convexities of an image of a quadratic map in case the number of non-convexities is infinite
- Designed and implemented the Convexity Analysis of Quadratic Maps library which gives approximate solutions to a number of problems involving quadratic maps

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.

SCHOLARSHIPS

Research Scholars, a paid Research Assistant position, Swiss Federal Institute of Technology in Lausanne (EPFL), 2017 – 2019

Abramov Fund's scholarship for excellent grades (2014)

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

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

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*

OLYMPIADS AND HACKATHONS

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

RESEARCH INTERESTS

Artificial Intelligence, Machine Learning, Artificial Intelligence Safety, Mathematical Optimization, Robotics

INTERESTS

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

VOLUNTEERING

Anti-corruption foundation 2015 – 2017
Moscow, Russia

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