

# SERGEI VOLODIN

Birth date: 3 October 1994

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Russia, Moscow

## EDUCATION

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**Moscow Institute of Physics and Technology**, BSc student

*Sep 2012 – June 2017*

Department of Control and Applied Mathematics,

sub-department of Intellectual Systems and Data Analysis

GPA for 7 semesters: 8.98/10

## RESEARCH INTERESTS

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1. Artificial Intelligence
2. Machine Learning
3. Optimization

## RESEARCH EXPERIENCE

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**Skoltech, Center for Energy Systems**

Sep 2016 – Present

*Research Intern*

*Russia, Moscow*

- Worked on the Power Flow Feasibility problem with Assist. Prof. Anatoly Dymarsky, Dr. Elena Gryazina and Prof. Boris T. Polyak
- Designed (partially) and implemented the algorithm for cutting convex parts of the image in Matlab
- Examined the structure of the set of nonconvexities
- Results: *article expected in 2017*

**MIPT, sub-department of Data Analysis**

Feb 2016 – July 2016

*Student*

*Russia, Moscow*

- Worked on the ligand-receptor interaction problem using Machine Learning approach
- Implemented Probabilistic Classifier Chains algorithm using scikit-learn library
- Results: an article in ITAS proceedings

**MIPT, sub-department of Theoretical Mechanics**

Oct 2012 – Feb 2013

*Technician*

*Russia, Moscow*

- Worked on the article “Janibekov’s effect and the laws of mechanics” with A.G. Petrov
- Designed and implemented numerical simulations for Euler’s rotation equations
- Checked correctness of the approximation presented in the article using numerical simulation and symbolic computations in Wolfram Mathematica
- Results: an article in Doklady Akademii Nauk

## PUBLICATIONS

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Probabilistic prediction of nuclear receptors biological activity, **Sergey Volodin**, Maria Popova, Vadim Strijov, ITAS 2016

Janibekovs effect and the laws of mechanics, A.G. Petrov, **S.E. Volodin**, 2013, published in Doklady Akademii Nauk, 2013, Vol. 451, No. 4, pp. 399403.

## CONFERENCES

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

*Speaker*

Eights Traditional school Control, Information, Optimization (Saint-Petersburg, Repino, June 2016)

*Poster presenter*

## SCHOLARSHIPS

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“Abramov fund scholarship” for excellent grades (2014)

## SKILLS

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Programming: C/C++, Python, Matlab, scikit-learn, numpy, Mathematica, AVR C/C++, x86 assembly (nasm), Microsoft SQL

Languages: Russian (native), English (B2)

## COURSES

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Approaches to Object Detection using DIGITS (NVIDIA Deep Learning Workshop, MIPT, Feb 2017)

## OLYMPIADS AND HACKATHONS

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DeepHack.RL hackathon (Deep RL for Atari games), MIPT, 2017. 4'th place (z-score)

DevCup, Russia, Moscow 2013, 2nd place (with BBC&N team)

<https://vk.com/devcup>

## PROFESSIONAL EXPERIENCE

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### **ITBrat**

*Developer*

July 2015 – Feb 2016

*Russia, Moscow*

- Developed High Frequency Trading (cross-border arbitrage) application in C++, from initial discussion with the team to deployment and supporting
- Added low-level networking to the project using Solarflare OpenOnload library and hardware
- Designed and supported the environment for the algorithm: build stage, version control, performance analysis using network dumps

### **EscapeControl**

*Developer*

July 2015 - Feb 2016

*Russia, Moscow*

- Created a startup selling software & hardware framework for real-world escape games
- Managed team of 2 web developers
- Ten copies sold, currently running in different countries

### **Claustrophobia**

*Developer*

July 2014 – Feb 2015

*Russia, Moscow*

- Created system architecture for the real-world escape room game
- Implemented the solution using C++ (Atmel AVR, Linux)
- Results description: [habr.ru/p/258585/](http://habr.ru/p/258585/) (in Russian)

### **Quadcopter stabilization**

2012 – 2014

- Worked with TechnoWorks team (Arshavir Ter-Gabrielyan and others)
- Developed the algorithm for stabilization a quadcopter drone using C++ (Atmel AVR, Linux)
- Conducted the analysis of launches to improve flying quality
- Results description: [habr.ru/p/216437](http://habr.ru/p/216437) (in Russian)