

# SERGEI VOLODIN

Birth date: 3 October 1994

sergei.volodin@phystech.edu, +7 916 600-90-58

Russia, Moscow

## EDUCATION

---

**Moscow Institute of Physics and Technology**, undergraduate student *Sep 2012 – June 2017*  
Department of Control and Applied Mathematics,  
chair of Intellectual systems and Data Analysis  
GPA for 7 semesters: 8.98/10, in top-5% of the department (2/77)

## RESEARCH INTERESTS

---

1. Artificial intelligence
2. Machine learning
3. Optimization

## RESEARCH EXPERIENCE

---

**Skoltech** Sep 2016 –  
*Research Intern* *Russia, Moscow*

- Worked on the Power flow feasibility problem with Anatoly Dymarsky and Elena Gryazina
- 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, chair 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
- Assessed this method as infeasible for the task
- Results: an article in ITAS proceedings

**MIPT, chair 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 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

---

On the feasibility for the system of quadratic equations, Anatoly Dymarsky, Elena Gryazina, Boris Polyak, **Sergei Volodin** (*expected*)

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

---

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

*Speaker*

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

*Poster presenter*

## SCHOLARSHIPS

---

“Abramov” skolarship for excellent grades (2014)

## SKILLS

---

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

Languages: Russian (native), English (B2)

## OLYMPIADS AND HACKATHONS

---

DeepHack.RL deep reinforcement learning for Atari games hackathon, MIPT, 2017, *expected*

Sixteen interuniversity programming olympiad, Vologda, 2013, successful performance

<http://olympiads.vologda-uni.ru/interuni/>

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

<https://vk.com/devcup>

## PROFESSIONAL EXPERIENCE

---

### ITBrat

July 2015 – Feb 2016

*Developer*

*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, performance analysis using network dumps)

### Claustrophobia

July 2014 – Feb 2015

*Developer*

*Russia, Moscow*

- Created system architecture for the quest
- Implemented the solution using C++ (Atmel AVR, Linux)
- Results description: <https://habrahabr.ru/company/technoworks/blog/258585/> (in Russian)

## HOBBY

---

### Quadcopter stabilization

2012 – 2014

- Worked with TechnoWorks team (Arshavir Ter-Gabrielyan and others)
- Developed the algorithm of stabilization for quadcopter drone using C++ (Atmel AVR, Linux)
- Conducted the analysis of launches to improve flying quality
- Results description: <https://habrahabr.ru/company/technoworks/blog/216437/> (in Russian)