Ilya Kupchenko

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EDUCATION

UNIVERSITY OF SOUTHERN CALIFORNIA

MS in Computer Science

2016 | Los Angeles, CA

UNIVERSITY OF SOUTHERN CALIFORNIA

PhD in Physical Chemistry

Droptout 2016 | Los Angeles, CA

MOSCOW STATE UNIVERSITY OF M.V.LOMONOSOV

PhD in Physics

2012 | Moscow, Russia

LINKS

 Github:// **ilya-kupchenko**
 LinkedIn:// **ilyakupchenko**
 Leetcode:// **ilyakupchenko**
 Topcoder:// **IlyaKupchenko**
 HackerRank:// **ilya_kupchenko**
 CodeChef:// **ilyakupchenko**
 Kaggle:// **ilyakupchenko**

GRADUATE COURSEWORK

Machine Learning
Database Systems
Quantum Mechanics
Parallel and Distributed Computation
Artificial Interlligence
Theoretical Physics
Web Technologies

SKILLS

Over 10000 lines:
Java • BASH • Python • Javascript
Matlab • Fortran 95 • LaTeX
Over 5000 lines:
C • C++ • CSS • HTML5 • CSH
Familiar:
iOS • Android • MySQL • GPU
ZSH • Perl • Angular
Tools and Frameworks:
Apache Maven • Ant • Make • Agile
Scrum • Jira • Jenkins
JUnit • Android Studio • IntelliJ
Gradle • Spring • GWT • Scala

EXPERIENCE

JET PROPULSION LABORATORY, NASA | Full Stack Software Engineer

2017 - 2021 | Pasadena, CA

- Building the front-end part of the satellite comunication interface (JS, Java)
- Implementing the parts of the back-end libraries (Java, MySQL)
- Building the unit-tests for the newly-developed Java APIs
- Fixing the bugs in the data processing libraries and adapting them to the 64-bit environment (C, C++)
- Building an automated testing framework for the URL APIs (Python Requests)

PROCTER AND GAMBLE | Data Analyst Intern

Summer 2008 | Moscow, Russia

- Optimizing the schedule of the shipments for the network of the warehouses and distribution centers using the Network Flow and Greedy methods
- Implementing a software for SAP data extraction, processing and visualising in the the Excel spreadsheets using VBA

RESEARCH

UNIVERSITY OF SOUTHERN CALIFORNIA, DEPARTMENT OF CHEMISTRY | Research Assistant

2011 – 2016 | Los Angeles, CA

Worked under **Arieh Warshel** together with **Veselin Kolev**. Investigated enzyme catalysis using the quantum mechanics and modecular dynamics. Implemented the Potential of Mean Force and thermodynamics integration theory. Improved the precision of the empirical force fields by means of Conjugate Gradient optimization method [1].

MOSCOW STATE UNIVERSITY M.V.LOMONOSOV | Research Assistant

2007 – May 2011 | Moscow, Russia

Worked under **Alexander Nemukhin** and together with **Alexey Akimov**. Modelled the latteral diffusion of the nanoparticles on the solid plates using molecular dynamics and Simulated Annealing methods [2].

AWARDS

2008	Russian Foundation for Basic Research grand winner
2011	US Fullbright Russia Fellow

PUBLICATIONS

[1] J. Lameira, I. Kupchencko, and A. Warshel, "Enhancing paradynamics for qm/mm sampling of enzymatic reactions," *The Journal of Physical Chemistry B*, vol. 120, no. 9, pp. 2155–2164, 2016, PMID: 26866994. doi: `10.1021/acs.jpcb.5b11966`.

[2] S. Konyukhov, N. Artemov, I. Kaliman, I. Kupchenko, A. Nemukhin, and A. Moskovskiy, "Diffusion of fullerene-based nanocars on the surface of a gold crystal," *Moscow University Chemistry Bulletin*, vol. 65, pp. 219–220, Aug. 2010. doi: `10.3103/S0027131410040012`.