Oleg Tsarkov

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Education

2012 – 2013	**Yandex School of Data Analysis**.
2009 – 2014	**Master Degree in Mathematics and Mechanics**, *Moscow State University, Moscow, Russia*, GPA – 5.0 / 5.

Work experience

August 2017 – now — **Yandex**, *Team Leader, Senior Software Engineer*, Advertising Services, Group of Autobudget.
- The main focus is on supporting backend of automatic bidder for Yandex Direct
- Introducing new ideas and algorithms to be implemented in automatic bidder
- Managing an organized work of the team

July 2016 – August 2017 — **Yandex**, *Senior Software Engineer*, Advertising Services, Group of Projects Management.
- Help in coordination of department-spread projects

June 2015 – July 2016 — **Yandex**, *Software Engineer Intern*, Advertising Services, Group of Projects Management.
- The main task was to support automatic advertisement bidder, available for Yandex Direct users
- Managing related projects in other groups

September 2012 – June 2015 — **Yandex**, *Software Engineer*, Advertising Services, Group of Algorithms of Fraud Detection.
- Developing new fraud traffic filtration algorithms
- Developing automatic Anomalies Detection system, which is able to notify users on anomalies in advertisement traffic
- Integrating Anomalies Detection system with Anomalies Analyzer system, that is, anomalies in advertisement traffic, which are found by Anomalies Detection system, are passed to be analyzed to Anomalies Analyzer service

July 2012 – September 2012 — **Yandex**, *Software Engineer Intern*, Advertising Services.
- Developing of backend of eventually consistent consensus system
- Developing of Anomalies Analyzer service, which helps to find the reasoning slice of anomalies in advertisement traffic

Skills

Programming languages	**C++ (proficiency), Python (proficiency), Perl (proficiency), R (proficiency), java (basic), scala (intermediate), JavaScript (with JQuery), html (proficiency), SQL(proficiency)** .
ML tools	**Pandas, NumPy, SciPy, scikit-learn, matplotlib, Apache Spark, Vowpal Wabbit, word2vec**.
Other tools	**linux, git, svn, deb packages, gdb, pdb, vim, flask, nginx, mongodb, mac os**.
Languages	**Russian (native), English (proficiency)**.

Publications

May 2015 — **Journal of Mathematical Sciences**, *Extension of Endomorphisms of the Subsemigroup $GE_2 + (R)$ to Endomorphisms of $GE_2 + (R[x])$, Where R is a Partially-Ordered Commutative Ring Without Zero Divisors*, Volume 206, Issue 6, pp 711-733 https://link.springer.com/article/10.1007%2Fs10958-015-2348-y.

September 2014 — **Journal of Mathematical Sciences**, *Endomorphisms of the Semigroup $G_2(r)$ Over Partially Ordered Commutative Rings Without Zero Divisors and with 1/2*, Volume 201, Issue 4, pp 534-551 https://link.springer.com/article/10.1007/s10958-014-2010-0.

2013 — **Fundamental and Applicable Mathematics**, *Extension of endomorphisms of the semigroup $\mathrm{GE}_2^+(R)$ to endomorphisms of $\mathrm{GE}_2^+(R[x])$ for the lattice-ordered commutative ring R with a unit and without zero divisors.*, no. 4, pp 155-184 http://www.ams.org/mathscinet-getitem?mr=3431839.

Projects

2017 – now — **RAST – a highly distributed database**, https://github.com/olegtsts/RAST, https://github.com/olegtsts/parallel_programming.
- Project is in the designing state
- Involves methods of constructing fault-tolerant service
- Includes high-level multithreading techniques
- Includes exception-safe design techniques
- Includes safe memory release techniques
- See the example of code here https://github.com/olegtsts/parallel_programming/blob/master/lock-free-queue-with-olegts-ref-counting.cpp

2015–2016 **Graph Analyzer Utility**, *Mentoring project in Higher School of Economics*, https://github.com/ilyshnikova/graph-analyzer.
- Server-based program, which accepts time series points and detects anomalies on data series.
- Works online with complexity $O(1)$ on point submission.
- Includes human html interface for controlling algorithms, which work on time series.
- Source code: https://github.com/ilyshnikova/graph-analyzer

Git repository: https://github.com/olegtsts/

Olympiads

2011	**International Mathematics Competition for University Students**, Prize winner (third prize).
2011	**Students Olympiad of Higher Algebra**, Prize winner (second prize).
2010	**Students Olympiad of Higher Algebra**, Prize winner (third prize).
April 2009	**All-Russian Olympiad of Mathematics**, Prize winner (second prize).
April 2009	**Moscow State Olympiad of Mathematics**, Prize winner (first prize).
July 2008, July 2007, July 2006	**Geometrical Olympiad in Honor of I.F.Sharygin**, Prize winner (first prize), three times.
April 2008	**All-Russian Olympiad of Mathematics**, Prize winner (first prize).
March 2008	**Moscow State Olympiad of Mathematics**, Prize winner (third prize).
April 2007	**All-Russian Olympiad of Mathematics**, Prize winner (second prize).
April 2006	**All-Russian Olympiad of Mathematics**, Prize winner (third prize).
March 2006	**Moscow State Olympiad of Mathematics**, Prize winner (second prize).