

Education

2011 – 2013 **Yandex School of Data Analysis.**

2009 – 2014 **Specialist (equivalent to Master's degree) in Mathematics**, *Moscow State University, Moscow, Russia*, GPA – 5.0 / 5.

Work experience

May 2018 – **Google Switzerland**, *Senior Software engineer*, Google Shopping, Bidding Team.

- now
 - Working on cutting edge bidding solutions, which account for a significant chunk of Google Shopping revenue.
 - Detected several major bugs in autobidding implementation, fixes of which statistically significantly improved the quality of traffic (**+5% CVR uplift on eCPC**).
 - Implemented new bidding strategies and solutions, which did not exist in Google Shopping before (eCPC for Value, Coop, target ROAS improvements).
 - Used Recurrent Neural Networks for session-based optimizations, **brought AUC-PR up by 20%** (TFX based modeling).
 - Improving user trust by implementing bidding strategy statuses logic for SSC campaigns.
 - Helped facilitating cross org effort to migrate external ad stack (SA360) to Google Ads infra (Amalgam project), which involved **communicating directly with over 4 teams**, took ownership of pieces outside of the scope of my team
 - Occasionally taking and solving complicated Google-wide infra issues. Examples include fixing bug in TF matrices ops which **brought +8.8% AUC-PR and -1% logloss** to TpCVR model which is queried for all Shopping PLA candidates. Another example is fixing googlesql python client when it was breaking in multithreading context under python3, which facilitated py3 migration.

Aug 2017 – **Yandex**, *Team Leader, Senior Software Engineer*, Advertising Services, Autobidding Team.

- March 2018
- The main focus is on supporting and improving 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.

Jul 2016 – **Yandex**, *Senior Software Engineer*, Advertising Services, Projects Management Team.

- Aug 2017
- Help in coordination of department-spread projects.

Jun 2015 – **Yandex**, *Software Engineer*, Advertising Services, Projects Management Team.

- Jul 2016
- The main task was to support automatic advertisement bidder, available for Yandex Direct users.
 - Managing related projects in other teams.

Sep 2012 – **Yandex**, *Software Engineer*, Advertising Services, Algorithms of Fraud Detection.

- Jun 2015
- 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.

Jul 2012 – **Yandex**, *Software Engineer Intern*, Advertising Services.

- Sep 2012
- 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 **Proficiency level: C++, Python, Perl, R, JavaScript (with JQuery), html, SQL**

Intermediate level: Scala.

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>.

Sep 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 $\text{GE}_2 + (R)$ to endomorphisms of $\text{GE}_2 + (R[x])$ 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.
- o Project is in the designing state.
 - o Involves methods of constructing fault-tolerant service.
 - o Includes:
 - high-level multithreading technique
 - exception-safe design techniques
 - safe memory release techniques
 - o 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>.
- o Server-based program, which accepts time series points and detects anomalies on data series.
 - o Works online with complexity $O(1)$ on point submission.
 - o Includes human html interface for controlling algorithms, which work on time series.
 - o 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).
- Apr 2009 **All-Russian Olympiad of Mathematics**, Prize winner (second prize).
- Apr 2009 **Moscow State Olympiad of Mathematics**, Prize winner (first prize).
- Jul 2008, 2007, 2006 **Geometrical Olympiad in Honor of I.F.Sharygin**, Prize winner (first prize), three times.
- Apr 2008 **All-Russian Olympiad of Mathematics**, Prize winner (first prize).
- Mar 2008 **Moscow State Olympiad of Mathematics**, Prize winner (third prize).
- Apr 2007 **All-Russian Olympiad of Mathematics**, Prize winner (second prize).
- Apr 2006 **All-Russian Olympiad of Mathematics**, Prize winner (third prize).
- Mar 2006 **Moscow State Olympiad of Mathematics**, Prize winner (second prize).