

Nikolay Kurtov

Senior SWE-SRE at YouTube

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Experience

Tech Lead of YouTube Core SRE at Google

Oct 2018 - Present

Keeping youtube.com running by improving end-to-end success metrics, managing multiple infrastructure migrations, onboarding new systems. Defining quarterly goals for the team, and getting new team members oncall.

Knowledge Graph infrastructure at Google

Apr 2016 - Sep 2018

Developed a new critical piece of infrastructure, improving reliability and throughput of the system. Designed and developed multiple components of the system, APIs for other teams.

Knowledge Graph quality at Google

Dec 2014 - Mar 2016

Improved Machine learning reconciliation of music entities, affecting 0.32% of all web search traffic.

Geo logs processing at Google

Nov 2013 - Nov 2014

Extracted new metrics from logs and made them available to developers. Was the project lead. The project is active to this day, its data is integrated into Google My Business. [Example](#).

Geo data quality at Google

Oct 2012 - Oct 2013

Designed and implemented a high-precision machine learning system, which greatly decreased the rate of duplicate business listings on the map of Russia.

Google Offers

Aug 2011 - Sep 2012

Developed a system for personalized offers targeting both for email distribution and online distribution.

Software Engineer at Intel

April 2010 - June 2011

Identified opportunities of improving performance of Intel C++ Compiler on Intel Atom microarchitecture on CPU2000 and EEMBC 1.1 suites, and of newnew microarchitectures on CPU2006 suites.

Intern Software Engineer at Intel

May 2008 - Mar 2010

Developed parts of [Intel Concurrent Collections for C++](#). Developed benchmarks and improved performance and scalability of the library.

Intel Student Laboratory

Mar 2008 - May 2008

Added support for edge profiling in Apache Harmony Jitrino.JET compiler.

xored software, Inc.

Apr 2007 - Feb 2008

Quality Assurance, Webmaster, managed Continuous Integration and administered Debian servers.

SWSOft Student Laboratory

Jul 2006 - Jan 2007

Developed a physics engine for one game, and level generation and sound programming for another game.

Open-source projects

- **Hive Web** - Web client for playing [Hive](#), written in Haskell. <https://hub.darcs.net/orfest/hiveweb>
- **AppleSID** - tracks signal amplitude of VLF radio stations to detect Solar Flares. Written in Rust. <https://nest.pijul.com/orfest/applesid>
- **TwilightAlign** - simple Rust tool for aligning Sun images. <https://nest.pijul.com/orfest/twilightalign>
- **Hive Qt** - a desktop client for playing [Hive](#), written in C++. https://bitbucket.org/orfest/hive_qt/src
- **OnlineJudge CLI** - a set of Python tools for command-line access to online judge systems: [UVa](#), [Timus](#), [Codeforces](#). <https://bitbucket.org/orfest/onlinejudge-cli/>
- **TSP Flaming** - solution of the [travelling salesman problem](#) using the Simulated Annealing method. <http://tspflaming.sourceforge.net>

Skills

- 12 years of experience with C++
- 3 years of experience with Python
- 1 year of experience with Go and Java
- Fluency in Haskell, Rust and Java
- Shared and distributed memory parallel programming
- Optimization for Intel microarchitecture
- Data structures, algorithms and complexity analysis
- Network programming

Education

MS in Computer Science, 2009 - 2011

[Novosibirsk State University](#). GPA 5.00 (100%)

BS in Computer Science, 2005 - 2009

[Novosibirsk State University](#). GPA 5.00 (100%)

Publications

Optimal scheduling of parallel tasks for multicore processors

Materials of XLVIII International Scientific Students Conference "Students and Progress in Science and Technology", Apr 2010

Intel(R) Concurrent Collections - exploiting implicit parallelism

Materials of workshop "Science Intensive Applied Software" of Seventh International Andrei Ershov Memorial Conference "Perspectives of System Informatics", Jun 2009

Scheduler tuning in a parallel programming model Intel(R) Concurrent Collections

Materials of XLVII International Scientific Students Conference "Students and Progress in Science and Technology", Apr 2009

Intel(R) Concurrent Collections for C++ - a model for parallel programming

Materials of Software Engineering Conference (Russia) 2008 "Path to Competitive Advantage", Oct 2008

Optimization of performance and quality of code generated by Apache Harmony compilers

Materials of XLVI International Scientific Students Conference "Students and Progress in Science and Technology", Apr 2008

Hobbies

- Running, marathon personal best time - 3h25m
- Boulderling
- Astronomy. [Built a solar projection telescope](#)

Programming Competitions

- Finalist of ACM ICPC World Finals 2010 in Harbin
- Finalist of ACM ICPC World Finals 2011 in Orlando
- Finalist of Russian Code Cup 2011
- Finalist of Yandex Open 2010

Languages

- English - fluent
- German - intermediate (B1)
- Russian - native speaker