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.

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
- Reliability engineering
- Large-scale systems design
- Data structures, algorithms and complexity analysis
- Shared and distributed memory parallel programming
- Optimization for Intel microarchitecture
- Network programming

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

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%)

Hobbies

- Running, marathon personal best time - 3h25m
- Bouldering
- Astronomy. Built a solar projection telescope

Languages

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