

Sergey Serebryakov

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Specialization Software Engineer

Status United States permanent resident, Russian citizen

Skills and interests **Professional:** backend engineering, self-driving cars, deep learning, computer vision, algorithmic bottlenecks, high-performance optimizations, scalable architectures, distributed systems, functional programming, code quality, systems design

Recreational: frontend engineering, computer security, type systems

Programming languages (approximately in the order of preference):

Professional: Scala, Python, Go, Java, JavaScript, C++

Recreational: Haskell, TypeScript, Elm, Erlang, PHP, Perl

Other technologies and tools:

PyTorch, TensorFlow, Horovod, Petastorm, Spark, Docker, GCP, AWS, Kafka, Git, bash, Jenkins, SQL, HTML, CSS, LaTeX, IntelliJ

Work

Cruise LLC (San Francisco, California, US)

Senior Software Engineer, since Jul 2019

Machine Learning Platform: supporting AI research experiments

- Developed specialized frameworks around PyTorch and TensorFlow
- Enabled multi-GPU cloud training and evaluation on large-scale datasets
- Continuously improved DL models training performance (up to 30x)

Tesla, Inc. (Palo Alto, California, US)

Senior Software Engineer, Feb 2017 – Jun 2019

Autopilot Team: autonomous driving at scale

- Developed ML infrastructure and AI tools powering labeling and evaluation
- Automated the Autopilot Maps build pipeline end-to-end
- Architected reproducible and performant Spark jobs platform
- Set up a distributed firmware CI regression testing cluster

Twitter, Inc. (San Francisco, California, US)

Software Engineer II, Sep 2014 – Feb 2017

- Search Infrastructure: maintained systems powering Twitter Search
- Build Infrastructure: improved compilation performance with prioritization

Rocket Fuel, Inc. (Redwood City, California, US)

Rocket Scientist, Oct 2013 – Sep 2014

Serving Infrastructure Team: distributed real-time bidding ad system

- Implemented standalone low-latency Geo IP lookup server
- Integrated with ad exchanges

Internships

JetBrains — IntelliJ Labs Co., Ltd. (St. Petersburg, Russia)

Software Engineer Intern (research on Java language), Nov 2012 – Aug 2013

Facebook, Inc. (Menlo Park, California, US)

Software Engineer Intern (Python tooling), Jun 2012 – Aug 2012

Google, Inc. (Tokyo, Japan)

Software Engineer Intern (C++ backend + mobile web), Aug 2011 – Oct 2011

Google, Inc. (St. Petersburg, Russia)

Software Engineer in Test Intern (JavaScript tooling), Oct 2010 – Apr 2011

OpenWay Service, Ltd. (St. Petersburg, Russia)

Summer Intern (Java backend + web frontend), Jul 2010 – Aug 2010

Education

St. Petersburg State University, Department of Mathematics and Mechanics

Specialist in Software Engineering (≈ US Master's degree), Sep 2008 — Jun 2013

Graduated with honors (GPA: 4.9/5.0)

Research

Formal Methods in Compilers: Build technique with aggressive output reuse

(Java)

Graduate paper (advisor: Dmitry Boulytchev), 2012–2013

3D Algorithms in Medicine: Constructing a 3D model of a human head from anatomical landmarks (MATLAB)

Term paper (advisor: Alexander Petrov), 2011–2012

Computer Vision: Reconstructing moving object position from noisy video observations (C++, OpenCV)

Term paper (advisor: Alexander Vakhitov), 2010–2011

Awards

- Best student of Microsoft Research ALMADA School, 2013
- Prize of ACM ICPC Quarterfinals, 2009
- Finalist of TopCoder High School programming competition, 2008
- Winner of [Indeed Prime Codility Challenge](#), 2015
- Finalist of [Kotlin Challenge](#), 2014
- Winner of Open International Internet Competition on Informatics, 2010-2011
- Recipient of Excellence Scholarship of Euler Foundation, 2009
- Second prize of the All-Russian School Informatics Competition, 2008
- Winner of Open School Cybernetics Competition, 2008
- Third prize of the All-Russian School Informatics Competition, 2007

Open source

Contributor: Petastorm, Apache Airflow, Apache Spark, Pants, Rich