

Dmitry Spikhalskiy

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Backend Engineer with extensive High Load systems experience, Machine Learning skills and comprehensive foundation in Math and Computer Science.

SKILLS

- Java (expert), Python (proficient), Scala (limited with Spark), C (prior)
- SQL, Spark, Hive, Hadoop, Kafka, Docker, Mesos, Kubernetes
- Netty, async-http-client, Spring, Avro, Protobuf, Jackson, JPA/Hibernate, Maven, Git
- Lucene, Cassandra, Redis, Zookeeper
- scikit-learn, numpy, pandas, tensorflow, vowpal-wabbit

PROFESSIONAL EXPERIENCE

PulsePoint, AdTech

February 2015 – present

Senior Software Engineer → Data Science Engineering Manager

- Handled a rapid 5x growth of ad requests from 40 to 200 billion per day without additional hardware by developing low-latency (<1ms), high-throughput (300k QPS per node), adaptive (0.5Mil connections per second) server and ML model that captures all traffic to filter out requests with low revenue potential. The server was exposed directly to the Internet providing further infrastructure optimization by retiring all hardware load balancers.
- Improved and optimized Pages Contextualizer. 100x more contextualizations per day on the same hardware; growth of success contextualizations from 30% to 90%; growth of incoming traffic contextual coverage from 25% to 95%.
- Achieved 20% revenue growth by developing a system that precisely tracks and predicts latency inside modules and allows more time for partners to make a bid.
- Achieved 15% revenue growth by reducing processing time in Ad Exchange from ~15ms to ~7ms by optimizing the platform code and infrastructure.
- Improved response time of large caches by migration on Redis Cluster. Developed deployment standards and tools as one of the first companies to have launched Redis Cluster in production. Improved popular Open Source Redis clients Jedis and Lettuce to handle high-load.
- Provided a gross margin growth of 30% in SSP (Exchange) auctions by improving bidding and arbitrage logic.
- Developed a click rate prediction model.

As Principal Engineer designed the systems to launch and develop new business - DSP (Buyer) platform with Health Care focus, including:

- Multitarget optimizations for ad campaigns bidding.
- Low cost healthcare-related user segments that are used in all ad campaigns with over \$25M per year in revenue.
- 30Tb Cassandra-based storage providing real-time access and long retention of visitors' profiles data, segments and cookie match graph.
- Service that provides in real-time the projected number of unique visitors, impressions, win rate, and total campaign budget for any campaign targeting.

As Tech Lead formed the new mixed Data Science and Engineering team.

Odnoklassniki, largest social network in Post-Soviet Union region

Software Engineer

November 2013 – February 2015

- Developed and productized Video Content ID project - a system that searches “similar by content” (cut versions, different resolutions, distorted, with added labels, etc) videos for moderators and copyright enforcement. Improved the proprietary Cassandra fork to support the Content ID project requirement.
- Developed video search and ranking based on a Lucene fork. Delivered “Next video” recommendation system and functionality.

iDa Mobile, fintech

Tech Lead and Principal Back-End Engineer

April 2012 – October 2013

- Architect and Lead Back-End Developer for iDa Mobile Banking Platform.
- Tech Lead for Instabank (instabank.eu) startup - a social banking project.

Mind Labs, high load webinar platform

Lead Developer

July 2011 – April 2012

- Architecting, developing and stress volume testing of the service backend for mind.com - SAAS videoconferences and webinar social service.
- Guinness World Record for handling the largest webinar in the world with more than 12,000 active participants, where each user was able to stream their video and audio.

Tilbi

Backend Engineer

July 2010 – July 2011

Built a startup in travel industry to simplify and optimize the organization of business trips.

NetCracker Technology

Junior Software Engineer

September 2008 – July 2010

EDUCATION

Lomonosov Moscow State University, highest-ranked Russian university

Master of Science

2007 - 2012

Department of Computational Mathematics and Cybernetics, System Programming Track

Majors: Math, Systems Programming

COURSES

Oracle Certified Java Programmer; AI Nanodegree @ Udacity; Data Analysis and Statistical Inference @ Coursera

Algorithms: Design and Analysis, Part I&II, Stanford @ Coursera

Machine Learning, Stanford @ Coursera

Functional Programming Principles in Scala, EPFL @ Coursera

Computing For Data Analysis (R), Johns Hopkins University @ Coursera

Heterogeneous Parallel Programming, University of Illinois @ Coursera

Cryptography I, Stanford @ Coursera

PERSONAL INFORMATION

Languages: English (proficient), Russian (native)

Work authorization: Permanent Residence (Green Card)