

# ALEXANDER MYLTSEV

email: [alex@myltsev.com](mailto:alex@myltsev.com) | skype: alexander.myltsev | github: [alexander-myltsev](https://github.com/alexander-myltsev)

CV update: March, 2018 | <http://myltsev.com/cv>

## EDUCATION

**Moscow Institute of Physics and Technology** (MIPT), Moscow, Russia, 2008–2010

*Department of Control and Applied Mathematics, department of Informatics (CIS)*

*M.Sc. in Mathematics and Computer Science, GPA: 5.0/5.0*

*Thesis: Embedding Domain Specific Language in F# for Hybrid System Control*

*Advisor: [Andrey Ustyuzhanin](#), PhD in CS, Associate Professor at MIPT, Head of joint CERN-Yandex Research & Education programs*

## Self Education, Coursera, OpenEDU

- Yandex School of Data Analysis (completed 2 of 4 semesters)
- “Advanced Combinatorics and Graph Theory” specialization, MIPT (OpenEDU.ru, taking at present)
- “[Machine Learning Data Analysis](#)” specialization by MIPT and Yandex, Coursera (taking at present, 100% grade, working on the capstone project)
- “Competitive Data Science” by [AppliedDataScience](#). Lecturers and tutors from Higher School of Economics, Moscow Institute of Physics and Technology, Yandex. Certified, 7th place out of 116 students
- “Algorithms: Design and Analysis” by Tim Roughgarden, Stanford University. 70% grade
- “Machine Learning” by Andrew Ng, Stanford University. 100% grade
- “Principles of Reactive Programming in Scala” by Martin Odersky et al., EPFL. 98.2% grade
- “Functional Programming Principles in Scala” by Martin Odersky et al., EPFL. 100% grade
- “Structure and Interpretation of Computer Programs” by H. Abelson and G. J. Sussman. Individually solved all exercises of the book
- “Assets Allocation Management” specialization by [Finarium.pro](#). 90% grade

## Academic Contributions

- Paper “parboiled2: macro-based parsing expression grammar generator for Scala programming language”. Journal of Functional Programming (ISSN: 1469-7653, Online) (*draft*)
- Paper “[gnparser](#)”: a powerful parser for scientific names based on Parsing Expression Grammar”. BioMed Central (Software) journal (DOI: 10.1186/s12859-017-1663-3)
- Manning Press books reviewer. Books include: “Type-Driven Development with Idris” by Edwin Brady, “Practical Recommender Systems” by Kim Falk, “Machine Learning with TensorFlow” by Nishant Shukla, “Deep Learning with Python” by Francois Chollet, “The Tao of Microservices” by Richard Rodger, “Kubernetes in Action” by Marko Luka, “Grokking Deep Learning” by Andrew W. Trask
- Co-author of the book “Parallel computing on GPU Architecture and CUDA programming model”
- Mozilla Labs article: “[Elevating JavaScript Performance Through GPU Power](#)”

## Summer/Winter Schools

- July '15, participant of “[Deephack.Game](http://game.deephack.me)” (<http://game.deephack.me>) – deep neural networks week conference and hackathon at [Moscow Institute of Physics and Technology](#)
- Aug '14, 8th Russian Summer School in Information Retrieval (RuSSIR)
- July '11, Summer School in Software Engineering and Verification. Best project award for “Formally Proving Facts in the Refinement Algebra” Mentor: Sir Tony Hoare, Microsoft Research
- June '10, All-Russian summer school in “High Performance Computing”
- Aug '09, Microsoft Research HPC Summer School at MSU
- June '09, NVIDIA and Intel Summer School at [Moscow Institute of Physics and Technology](#)

## OPENSOURCE CONTRIBUTIONS (GITHUB.COM/ALEXANDER-MYLTSEV)

### Global Names Architecture (<http://globalnames.org>)

June 2015 – present

Search Engine Developer

*Natural History Survey, University of Illinois at Urbana-Champaign, USA*

- System of web-services which helps people to register, find, index, check and organize biological scientific names and interconnect on-line information about species
- I made significant contribution to dramatically speed up and improve quality of name parsing (40x), name resolution and retrieval (10x), Biodiversity Heritage Library indexing (from 40 days to 1 day)
- Co-designing production-ready search engine, applying algorithms and technologies in search, machine learning, data mining and natural language processing
- Paper: “gnparser – a powerful parser for scientific names based on parsing expression grammars”
- Using Scala Dev Stack, language parsing grammars, Python, Ruby, PostgreSQL/MySQL, Machine Learning and Natural Language Processing

### parboiled2

May 2013 – present

Co-author, core developer

[github.com/alexander-myltsev/parboiled2](https://github.com/alexander-myltsev/parboiled2)

- Successfully completed Google Summer of Code '13 internship program. Contributed to a real-world, long-term project: “parboiled2 – Macro-Based PEG Parser Generator for Scala”. Being a part of a globally distributed team
- Co-designed the overall architecture. Implemented most of the functionality till the present moment
- Paper “parboiled2: macro-based parsing expression grammar generator for Scala programming language”. Journal of Functional Programming (ISSN: 1469-7653, Online) (*draft*)
- 549 stars at github. The project is in core of [Lightbend Akka-HTTP](#)

### Honors & Awards

- Oct 2015, Machine Learning Hackathon (Microsoft) winner (MicroYandex team)
- Sept 2013, R&D Grant for [job]snipper, U.M.N.I.K.-MIPT (\$13000USD)
- Jun 2010, CUDA certified professional
- Imagine Cup 2011 team, Russian finalists of Embedded Development
- Best Report at VII All-Russian Conference “Microsoft Technologies in Theory and Practice of Programming” in 2010
- Imagine Cup 2010 team, 2nd place in a regional stage of Software Design Competition in Moscow & 4th place in Russian final of Embedded Development
- Mozilla Labs Jetpack Contest 2009 winner: Mozilla Firefox Jetpack and NVIDIA CUDA integration for data processing

### EXPERIENCE

#### Digital October, New Professions Lab (<http://newprolab.com/bigdata/eng>)

Mar – Sept 2015

BigData Course Tutor

*Moscow, Russia*

- Tutored 60+ students in Apache Spark, Python, HBase, Data Mining, Machine Learning
- Improved course materials

#### Collective Media (<http://collective.com>)

Nov 2013 – May 2015

External Scala Development Consultant

*New York, USA / Moscow, Russia*

- Helped to build high-loaded backend for ad-tagging server that serves 100K+ requests per second
- Introduced JMH benchmarking to the project. Optimized bunch of performance critical parts of code
- Advocated and contributed to open-sourced projects: [kamon](#), [sbt-aspectj](#), [monitor](#), [scala-mustache](#), [scredis](#), [redisala](#), [riemann](#)
- Developed projects particularly for company needs: [RSlick](#) and [sbt-uglify](#)
- System performance analysis based on Hadoop logging processing
- Contributed significantly to build system automation (SBT)
- Distributed team work

#### NVIDIA

Dec 2010 – May 2012

Contractor at CUDA Certification and Tech Marketing Department

*Moscow, Russia*

- The evangelist of CUDA technologies: certification program support, CUDA experts community development, creating CUDA learning courses, tutorials, public talks

- Invited speaker at Summer 2011, Winter 2011 and Spring 2012 Schools in GPU Computing and CUDA at Moscow State University
- Co-author of the book “Parallel computing on GPU Architecture and CUDA programming model” and the corresponding online course for [hpc-education.ru](http://hpc-education.ru)
- Developed the cross-platform learning shell

## TECHNICAL SKILLS

<i>Computer Languages</i>	Scala, Java, Python, Scheme, Ruby, C#, F#, C/C++, CUDA C/C++
<i>Scala Dev Stack</i>	SBT, Macros, Shapeless, Akka, spray.io, Play Framework, Anorm, Slick
<i>Data tools</i>	MySQL, PostgreSQL, Hadoop, Hive, Spark, Aerospike, Redis
<i>Development tools</i>	Microsoft Azure, Heroku, Docker, Ubuntu, bash, Nginx, Git, L <sup>A</sup> T <sub>E</sub> X

## Tech/Invited Talks

- Biodiversity Information Standards Conference (TDWG) '17 in Canada. Talk: “A path to continuous reindexing of scientific names appearing in Biodiversity Heritage Library data”
- Biodiversity Information Standards Conference (TDWG) '16 in Costa Rica. Talk: “New Scientific names finding, parsing and resolution tools from Global Names.”
- [ScalaDays.org](http://ScalaDays.org) 2014 conference in Berlin, Germany. Talk: “Meet parboiled2 – a macro-based PEG parser generator for Scala”
- Speaker at Summer '11, Winter '11 and Spring '12 Schools in GPU Computing and CUDA at Moscow State University

## ADDITIONAL INFORMATION

Languages	Russian (mother tongue), English (fluently reading technical documentation, verbal proficiency adequate to pass a technical interview)
Personality	hard-working, responsible, research-driven, energetic, innovative, experienced to work in globally distributed teams
Hobbies	Ashtanga Yoga, Total immersion swimming