

# ALEXANDER MYLTSEV

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## EDUCATION

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

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

*M.S. 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*

**South Ural State University (SUSU)**, Chelyabinsk, Russia

*Faculty of Electronics, Department of Computing Systems and Network*

*Diplomated Specialist: Computing Systems and Networks, GPA: 4.5/5.0*

*Thesis: Distributed System for Conferencing*

*Advisor: Sergey Tkachev, Researcher at SUSU, CEO of Genrix Software*

**South Ural State University (SUSU)**, Chelyabinsk, Russia

*Faculty of Linguistics, Department of Linguistics*

*Diploma of Occupational Training: Theory & Practice of English Language, GPA: 4.7/5.0*

**Yandex School of Data Analysis**, 2 of 4 semesters

## Summer/Winter Schools

- July '15, participant of "Deephack.Game" (<http://game.deephack.me>) – deep neural networks week conference and hackathon at [Moscow Institute of Physics and Technology](#)
- Oct '13, Participant of "Start in Garage" two days startup acceleration program at MIPT. Organized by [RIS Ventures](#)
- 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](#)

## Self Education

- Coursera: "[Machine Learning Data Analysis](#)" specialisation (verified, taking at present, 100% score)
- Udemy: Become a SuperLearner
- Coursera: "Algorithms: Design and Analysis", "Machine Learning", "Principles of Reactive Programming in Scala", "Functional Programming Principles in Scala"
- Structure and Interpretation of Computer Programs, H. Abelson and G. J. Sussman

## EXPERIENCE

**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
- Co-designing production-ready search engine, applying algorithms and technologies in search, machine learning and data mining
- Paper: "gnparser – a powerful parser for scientific names based on parsing expression grammars"
- Using Scala Dev Stack, parboiled2, Python, Ruby, PostgreSQL/MySQL, Machine Learning

## 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](#), [rediscala](#), [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

## Google Summer of Code 2013

May 2013 – Sept 2013

Intern

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

- Successfully finished the internship program. Contributed to a real-world, long-term project being a part of a globally distributed team
- Project: parboiled2 – a Macro-Based PEG Parser Generator for Scala

## [job]snipper

Apr 2013 – Apr 2014

co-Founder

- Backend development, machine-learning algorithms implementation, architecture design, database design, RESTful API design
- Data analysis, A/B tests: query logs and job postings
- Fall 2013, R&D Grant for [job]snipper, U.M.N.I.K.-MIPT (\$13000USD)
- Distributed team work

## iiko (<http://en.iiko.ru>)

Nov 2012 – July 2013

C# and Java Backend Software Developer

Moscow, Russia

- Connected <http://iiko.net> to social networks: Twitter, Facebook, VKontakte
- Contributed to the development and improvement of two core features: “profit and loss reports” and “incentive programs”
- Bug fixing, code optimization, tech talks, API design

## Kudoster – social service for thankful people

May 2012 – Nov 2012

co-Founder, C# Backend Developer

Moscow, Russia

- Iterated on multiple versions of a product and business models
- Developed a fully functional backend from a mere concept: system architecture, database design, RESTful API design, development of highload service, optimization and testing, social networks integration

## NVIDIA

Dec 2010 – May 2012

Contractor at CUDA Certification and Tech Marketing Department

Moscow, Russia

- Served as an evangelist of CUDA technologies: certification program support, CUDA experts search, production of CUDA teaching materials (tutorials, 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 a cross-platform GUI shell for teaching purposes

## TECHNICAL SKILLS

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

## Academic Contributions

- Paper “parboiled2: macro-based parsing expression grammar generator for Scala programming language”. (*in preparation*)
- Paper “gnparser”: A powerful parser for scientific names based on parsing expression grammars”. BioMed Central (Software) journal (*in proceeding*)
- Reviewer of books: “SBT in Action”, “Practical Recommender Systems”, “Machine Learning with TensorFlow”, “Learn Haskell” (Manning Press)
- Co-author of the book “Parallel computing on GPU Architecture and CUDA programming model”
- Co-author of the online course “Parallel computing on GPU Architecture and CUDA programming model” for [hpc-education.ru](http://hpc-education.ru)
- Co-author of MIPT course “Basics of Robot Programming Using MS Robotics Development Studio”
- Mozilla Labs article author: “[Elevating JavaScript Performance Through GPU Power](#)”

## Tech/Invited Talks

- Biodiversity Information Standards Conference (TDWG) '16 in Costa Rica. Talk: “New Scientific names finding, parsing and resolution tools from Global Names.”
- [ScalaDays.org 2014 conference](#) in 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

## Honors & Awards

- [Machine Learning Hackathon \(Microsoft\)](#) Winner (MicroYandex team)
- Fall 2013, R&D Grant for [job]snipper, U.M.N.I.K.-MIPT (\$13000USD)
- 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 0.5 Contest 2009 winner: Mozilla Firefox Jetpack and NVIDIA CUDA integration for data processing
- 9th place of 258 at Imagine Cup 2009 Robotics & Algorithms semifinal (the only solution written in a functional language, F#)

## OPENSOURCE CONTRIBUTIONS ([GITHUB.COM/ALEXANDER-MYLTSEV](https://github.com/Alexander-Myltsev))

### Global Names Architecture

June 2015 – present

*Co-author, core developer*

[globalnames.org](http://globalnames.org)

- System of web-services which helps people to register, find, index, check and organize biological scientific names and interconnect on-line information about species
- Co-designing production-ready search facilities

## parboiled2

Co-author, core developer

May 2013 – present

[parboiled2.org](http://parboiled2.org)

- Macro-Based PEG Parser Generator for Scala
- Co-designed the overall architecture
- Implemented most of the functionality till the present moment
- The project is in core of [Typesafe Akka-HTTP](#) (AKA [spray.io](#))

## Scalan-GPU

Co-author

Oct 2012 – Mar 2013

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

- Thrust/CUDA backend for Scalan-v2 library (an implementation of nested data parallelism in Scala)
- Designed the overall architecture
- Implemented  $\alpha$ -version of “Scalan-CUDA” translator and launcher

## 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     | Hatha Yoga, cycling, free diving                                                                                                       |