ALEXANDER MYLTSEV

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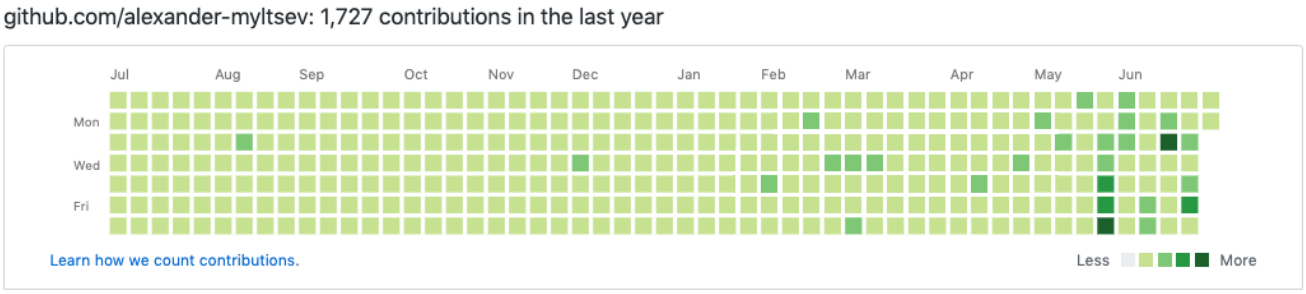
CV update: July, 2019 | http://myltsev.com/cv

OPENSOURCE CONTRIBUTIONS (GITHUB.COM/ALEXANDER-MYLTSEV)



Global Names Architecture (http://globalnames.org) — June 2015 – present

Full-stack 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 the 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, Angular/TypeScript, PostgreSQL/MySQL, Machine Learning and Natural Language Processing

Okama – Assets Portfolio Analysis Toolkit — May 2017 – present

Core author & Full-stack developer *https://github.com/okama-io/yapo*

- delivers comprehensive functionality to the individual investor to compose and analyze portfolios with facilities of modern portfolio theory based on R&D by Harry Markowitz
- made significant contribution to the entire system from scratch to the fully-functional product:
  - ⋆ the crawler for MUTs, stocks, ETFs, Financial Indices, currencies, etc. in Python3
  - ⋆ the open-sourced *yapo* library (in Python3) as the self-suited tool and behind the API
  - ⋆ the GraphQL/REST API in Flask/Python3 and Yesod/Haskell
  - ⋆ the okama.io frontend in Angular7/Typescript

parboiled2 — May 2013 – present

Co-author & Core developer *http://parboiled2.org*

- 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)*
- 606 stars at github. The project is in core of Lightbend Akka-HTTP

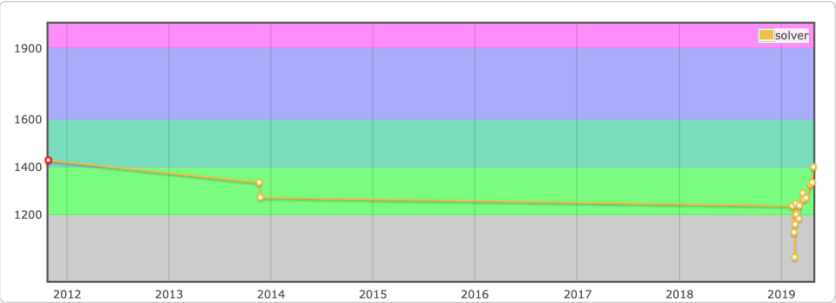
HONORS & AWARDS

- Oct 2015, Machine Learning Hackathon (Microsoft) winner (MicroYandex team)
- Sept 2013, R&D Grant for [job]snipper, U.M.N.I.K.-MIPT ($13000 USD)
- 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

EDUCATION

Competitive Programming

- completed 1 semester course of competitive programming at Higher School of Economics in 2018
- regularly solve tasks at the "3.5 Computer Tasks per Week" project
- slow but positive progress trend at codeforces.com from the beginning of 2019



Moscow Institute of Physics and Technology (MIPT), Moscow, Russia, 2008–2010
Department of Control and Applied Mathematics, subdepartment 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, Ph.D. in CS, Associate Professor at MIPT, Head of joint CERN-Yandex Research & Education programs

Self Education, Coursera

- Yandex School of Data Analysis (completed 2 of 4 semesters)
- "Machine Learning Data Analysis" specialization by MIPT and Yandex, Coursera (completed 5 of 6 courses, 100% grade, currently working on the final project)
- "Competitive Data Science" by AppliedDataScience. Lecturers and tutors from Higher School of Economics, Moscow Institute of Physics and Technology, Yandex. Certified, rating: 7th 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. Solely solved all exercises of the book
- "Personal 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) – 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

EXPERIENCE

Digital October, New Professions Lab (https://newprolab.com/en/bigdata) 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 (https://vistohub.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

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
- Developed the cross-platform learning shell

TECHNICAL SKILLS

Computer Languages	Scala, Java, Python, Scheme, Ruby, TypeScirpt, C#, Haskell, F#, C/C++, CUDA C/C++
Dev Stack	SBT, Macros, Shapeless, Akka, spray.io, Play Framework, Anorm, Slick, Angular2
Data tools	MySQL, PostgreSQL, Hadoop, Hive, Spark, Aerospike, Redis
Development tools	Microsoft Azure, Heroku, Docker, Ubuntu, bash, Nginx, Git, LaTeX

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 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