Artem Pelenitsyn

Curriculum Vitæ

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Education

2003–2007 **B.Sc. in Applied Mathematics and Computer Science**, *Southern Federal University*, Rostov-na-Donu, Russia, link to the transcript.
Major: Foundations and Software Engineering for Computer Science

2007–2009 **M.Sc. in Applied Mathematics and Computer Science**, *Southern Federal University*, Rostov-na-Donu, Russia, link to the transcript.
Major: Foundations and Software Engineering for Computer Science

Master thesis

title *BMS-algorithm and its application to decoding*

supervisor Prof. V.M. Deundyak

Research interests

Functional programming, Mathematics of programming, Type systems and type theory, Programming languages

Experience (summary)

Occupation

2018–present **PhD student**, *Northeastern U.* , Boston, USA.

Fall 2017 **Research assistant at Programming Research Laboratory**, *Czech Technical University*, Prague, Czech Republic.

Spring 2017 **Research assistant at Programming Research Laboratory**, *Northeastern University*, Boston, USA.

2010–2011, 2012–2017 **Assistant professor, lecturer**, *Southern Federal University* , Rostov-na-Donu, Russia.

PL-related trainings

PLMW @ ICFP 2018, OPLSS 2017, SSGEP @ Oxford U. 2015

GHC Contributions

!538 (Ongoing) Make `-threaded` the default

bb3fa2d1 Remove some dependencies of the typechecker from the simplifier.

c6f4eb4f Fix precision of asinh/acosh/atanh by making them primops

8546afc5 Documentation: “state transformer” → “state monad” / “ST” (whichever is meant)

14d88380 Update Unicode tables to v. 12 of the standard

Pet Projects

subtype-fuzzer — A fuzzer to test a tricky subtype relation as found in the Julia programming language / Haskel, 2018

chek-test — Remove groove from checking students' submissions / Haskell, 2016

cpp-mv-poly — C++-implementation of multivariate polynomials and the BMS-algrithm massively using C++ templates

mmcs-entrance — Generation of entrance diagrams (in PNG) in MMCS/SFedU from oficial data (XLS) / Java, 2010

lj-comments-notifier — Notifications about new comments in some livejournal.com-based blog / Haskell, 2011

Project Euler — Link to the participant record / Haskell (mostly), C++

Me @ GitHub

Personal awards, scholarships, etc.

2012 **Participation in all-russian final of international student olympiad "IT-planet"**, competition: "Oracle Java Olympic".
Link to Diploma for Participation (in Russian)

2012 **Diploma for taking second place in regional stage of international student olympiad "IT-planet"**, competition: "Oracle Java Olympic".
Link to Diploma scan (in Russian)

2012 **Participation in the final stage of VI Open Programming Contest of Southern Federal University**, individual event.
Link to Diploma for Participation (in Russian)

2011 **Scholarship from foundation "Education and Science on the South of Russia"**.
Link to the scholarship statement scan (in Russian)

2011 **Rector's commendation for participating in international accreditation of unversity teaching programmes**, *Southern Federal University*.
Link to scan of the commendation text (in Russian)

2008 **Diploma for the best talk**, *student session during annual "Week of Science", Southern Federal University*.
Link to Diploma scan (in Russian)

Experience (detailed)

Teaching (at Southern Federal University)

- Quantum Computations (lectures in English) — 2016 (fall).
- Computer Architecture (lectures & labs) — 2013–2016 (spring).
- Automata and Ciphers (lectures) — 2013–2016 (fall).
- Programming Basics labs — 2008, 2010–2012, 2014–2016.
- Programming Languages labs — 2008, 2010, 2012–2015 (fall).
- Functional Programming labs — 2011 (spring).
- Automata and Languages — 2010 (spring).
- Microprogramming/Assembler Programming labs — 2009 (fall).
- Geometry and Algebra — 2009 (fall).

Supervising student projects

- *Structuring Effectful Computations* — MSc G. Lukyanov, 2017, [PDF]
- *Generic Programming and Zippers* — A. Bolotina, 2017
- *Generation of algebraic data types descriptions based on JSON data via Template Haskell* — BSc O. Maroseev, 2016
- *Generation of type class instances based on instances of superclasses via GHC API* — BSc O. Filippskaya, 2016
- *Functional parser for Markdown using monad combination and monoidal representation of input* — BSc G. Lukianov, 2015
- *Deduction system for linear logic in Haskell* — BSc V. Pankov, 2015

Summer schools and other extra trainings

2018 **Programming Languages Mentoring Workshop @ ICFP**, St. Louis, USA, September 23rd 2018.
Link to the program.

2017 **Oregon Programming Languages Summer School**, *Univeristy of Oregon*, Eugene, USA, June 26th to July 8th 2017.
Link to Official Web Page.

2015 **Summer School on Generic and Effectful Programming**, *Department of Computer Science, Univeristy of Oxford*, St Anne's College, Oxford, 6th to 10th July 2015.
Link to Certificate of Attendance. Link to Official Web Page.

2011 **Summer School "Algebra and Geometry"**, *Laboratory of Algebraic Geometry in the National Research University Higher School of Economics, Teachers' Training University of Yaroslavl'*, Yaroslavl', Russia.
Link to Certificate of Attendance (in Russian). Link to Official Web Page (in Russian).

2010 **Microsoft Algorithms and Data Structures Summer School**, *Microsoft Research in Silicon Valey*, Saint-Petersburg, Russia.
Link to Certificate of Attendance. Link to Official Web Page.

2010 **Winter School on Applied Mathematics and Computer Science**, *National Research University Higher School of Economics*, Moscow province, Russia.
Link to Certificate of Attendance (in Russian).

2009 **Marktoberdorf Summer School "Logics and Languages for Reliability and Security"**, Marktoberdorf, Germany.
Letter of Acceptance. Link to Official Web Page.

Participation in MOOC

Coursera, 2013 **The Hardware/Software Interface**, *Prof. J.D. Noe*.
Link to Certificate

Coursera, 2012 **Quantum Mechanics andQuantum Computation**, *Prof. U. Vazirani*.
Link to Certificate

Coursera, 2012 **Functional Programming Principles in Scala**, *Prof. M. Odersky*.
Link to Certificate

Coursera, 2012 **Introduction to Logic**, *Assoc. Prof. M. Genesereth*.
Link to Certificate

Coursera, 2012 **Compilers**, *Prof. A. Aiken*.
Link to Certificate

Coursera, 2012 **Automata**, *Prof. J. Ullman*.
Link to Certificate

Coursera, 2012 **Cryptography I**, *Prof. D. Boneh*.
Link to Certificate

Coursera, 2012 **Algorithms I**, *Assoc. Prof. T. Roughgarden*.
Link to Certificate

Conference Talks: Research

International

2018 **ACM SIGPLAN Symposium on Scala, 2018**, *Student Talk "Julia Subtyping Lessons Scala Could Learn"*, St. Louis, USA, 2018 (co-located with ICFP).
Link to the abstract

2018 **2nd Workshop on Machine Learning Techniques for Programming Languages**, *Talk "Can We Learn Some PL Theory? How To Make Use of a Corpus of Subtype Checks"*, Amsterdam, The Netherlands, 2018 (co-located with ECOOP/ISSTA).
Link to the abstract

Russian

2015 **Scientific Conference "Modern Information Technologies and IT-Education"**, *talk "C++17 Concepts in their relation to C++0x ones"*, Lomonosov Moscov State University, Faculty of Computational Mathematics and Cybernetics.
Link to the web-site (in Russian), link to the slides (in Russian).

2012 **Research and Pratice Conference: Free Open Source Software "FOSS Lviv 2012"**, *talk "Software Implementation of Decoder For a Class Of Error-Correcting Codes on Algebraic Curves: Designing on a Basis of Generic Metaprogramming Templates"*, Ivan Franko National University of Lviv, Lviv, Ukraine.
Link to the web-site, link to the slides (in Russian).

2008 **Conference "Week of Science" in Southern Federal University**, *talk "On Implementation of Decoder for a Class of Algebraic-Geometry Codes on Projectve Curves using Sakata algorithm"*, Rostov-na-Donu, Russia.
Link to the slides (in Russian).

Seminar Talks

In Russian

2016 **Functional Visitors**, *Programming Languages and Compilers seminar*.
Link to the slides (in Russian): Part I, Part II

2016 **Seminar on Galois Theory**, Institute for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu, Link to the syllabus (in Russian).

2011 **Minicourse on Galois Theory**, *Algebra seminar*, Faculty for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu.

2011 **Talks "Foundations for programming Languages", "Automata and Formal Languages"**, *seminar for undergraduates "Introduction to Theoretical Computer Science"*, Faculty for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu.
Link to the slides (in Russian)

2009 **Talk "Higher-Order Computations and Model Checking"**, *Interchair seminar on Computer Science*, Faculty for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu.
Link to the slides (in Russian)

2009 **Talk "On multi-dimensional version of Berlekamp-Massey algorithm"**, *Seminar on Mathematical Methods in Information Safety and Security*, Faculty for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu.
Link to the slides (in Russian)

2009 **Talk "Inductive Data Types in Programming"**, *Seminar on Category Theory*, Faculty for Mathematics, Mechanics and Computer Science, Southern Federal University, Rostov-na-Donu.
Link to the slides (in Russian)

2008 **Talk "Spring Framework"**, *Rostov Java User Group*, Computing Center of Southern Federal University, Rostov-na-Donu.
Link to the slides (xul format – to be run in Mozilla Firefox browser; in Russian)

Publications

Peer-reviewed International

- Julia Subtyping: a Rational Reconstruction (with F. Zappa Nardelli, J. Belyakova, B. Chung, J. Bezanson, J. Vitek) // In: Proc. ACM Program. Lang., Vol. 2, Issue OOPSLA, 2018. DOI: 10.1145/3276483 [PDF]
- Functional Parser of Markdown Language Based on Monad Combining and Monoidal Source Stream Representation (with G.Lukyanov) // In: Itsykson V., Scedrov A., Zakharov V. (eds) Tools and Methods of Program Analysis. TMPA 2017. CCIS, vol 779, pp. 90–101. Springer, Cham. DOI: 10.1007/978-3-319-71734-0_8 [PDF]
- Associated Types and Constraint Propagation for Generic Programming in Scala // "Programming and Computer Software" (english trans. of "Programmirovanie"), 2015, No 4, pp. 224–230. DOI: 10.1134/S0361768815040064 [PDF].

Drafts

- Fuzzy-Testing A Subtyping Relation // 2018 [PDF]
- Handling Recursion in Generic Programming Using Closed Type Families (with A. Bolotina) // 2018 [PDF]

Russian

- Buliding parsers with algebraic effects // Proceedings of the First Russian Conference on Programming Languages and Compilers (PLC'17), 2017, pp. 185–190. With G. Lukyanov.
- Pelenitsyn A. Generic and meta- programming approach to design of software implementation of decoder for a class of algebraic geometry codes // "Prikladnaya informatika" (Applied computer science), 2012, No 2(38), pp. 60–70. [PDF], link to the draft in English.
- Pelenitsyn A. On exploiting one metaprogramming technique. Journal of the Ivanovo Mathematical Society, 2011, No. 1(8), pp.79–84. [PDF].
- Deundyak V., Pelenitsyn A. Operator-theoretic approach to Berlekamp–Massey Algorithm, // Izvestia vuzov (Universities' Bulletin), Sev.-Kav. Region (Caucasus Region), Estestvennie Nauki (Sciences), 2011, No. 3. Pp. 11–13. [PDF].
- Mayevskiy A., Pelenitsyn A. Software Implementation of Algebraic-Geometry Codec using Sakata algorithm, // Izvestia Yufu (Southern Federal University Bulletin), Technology Sciences, 2008, No. 8, pp. 196–198. [PDF].

In Conference Transactions (Russian)

- Pelenitsyn A. On Implementation of n-Dimensional BMS-algorithm Using Generic Programming // Transactions of Scientific School of I.B. Simonenko, 2010, pp. 197–203. [PDF] (in Russian).
- Mayevskiy A., Pelenitsyn A. Methodic Supply and IT-infrastructure for Teaching Low-Level Programming // Transactions of Scientific-Methodic Conference "Modern Information Technologies in Education", 2010, pp. 210–212. [PDF] (in Russian).
- Mayevskiy A., Pelenitsyn A. On Software Implementation of Algebraic-Geometry Codec using Sakata algorithm, // Transactions of X International Conference on Information Security and Safety, 2008, pp. 55–57.
- Pelenitsyn A. On Implementation of Decoder for a Class of Algebraic-Geometry Codes on Projectve Curves using Sakata algorithm, // Transactions of the Conference "Week of Science" in Southern Federal University, 2008, vol. 1, pp. 55–57. [PDF] (in Russian).
- Bragilevsky V., Mihalkovich S., Pelenitsyn A. Building Web-portal for Information and Education purposes on Computing Department // Transactions of Scientific-Methodic Conference "Modern Information Technologies in Education", 2008, pp. 48–49. [PDF] (in Russian).

Conference Talks: Education, Technology, Popular Science

International

2014 **Joint International Program For Scientific and Technology Cooperation**, *talk "Computer Science Projects Developed inside (in connection with) Department of Mathematics, Mechanics and Computer Sciences / SFedU"*, Sao Paulo, Rio de Janeiro, Fortaleza, Brasil.
Info on university web-site (in Russian), link to the slides.

Russian

2015 **Scientific Conference "Modern Information Technologies in Education"**, *talk "Store and publication assignment infrastructure for Moodle LMS"*, Institute for Mathematics, Mechanics and Computer Science in honour of I. I. Vorovich, Rostov-na-Donu, Russia.
Link to the web-site (in Russian), link to the slides (in Russian).

2010 **Scientific-Methodic Conference "Modern Information Technologies in Education"**, *talk "Methodic Supply and IT-infrastructure for Teaching Low-Level Programming"*, Computing Center of Southern Federal University, Rostov-na-Donu, Russia.
Link to the web-site (in Russian), link to the slides (in Russian).

2008 **International Conference on Information Security and Safety**, *talk "Building Web-portal for Information and Education purposes on Computing Department"*, Taganrog, Russia.
Link to the web-site, or link to the expanded version in Russian.

Community Service

Conference Organization

ETAPS '19 Web Co-Chair

ML4PL '18 Organizer

PLC '17 Organizer

Book Translations (English to Russian)

- Dowek, Gilles, Levy, Jean-Jacques. Introduction to the Theory of Programming Languages. / Springer. 2011. Russian translation together with V. Bragilevskiy. Published by DMK Press in 2013. Link to web page, link to Google.Books preview.
- Bird, Richard. Pearls of Functional Algorithm Design. / Cambridge University Press. 2010. Russian translation together with V. Bragilevskiy. Published by DMK Press in 2013. Link to web page, link to Google.Books preview.

Computer skills

Programming languages **Haskell**, C, C++(14), Java, Scala, Julia, Pascal, C#

Markup, Scripting LaTeX, HTML, CSS, JavaScript, PHP, bash, Regular expressions

Environment Git, Make, Emacs, Wiki/Markdown

Operating systems **GNU/Linux family**, Windows family

Languages

Russian Native

English Advanced (IELTS exam band score 7.5 taken in 2012)

Interests

Classical literature Homer, Goethe, Joyce, Kafka, Camus, Sartr, Brodsky

Art cinema	Bergman, Fellini, Truffaut, Tarkovsky, Wenders, Kitano, von Trier

Extra info

Gender	Male
Pronouns	His/him
Marital status	Single
Current place of living	Boston, USA
Citizenship, Homeland	Russia