Andrey Breslav

Contact Information

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Research Interests

- Domain-Specific Languages (Textual Syntax)

- Type Systems of Programming Languages

- Domain Modeling and Generative Programming

Education

since 2007	PhD student at Mathematics Department, Saint-Petersburg State University of Information Technology, Mechanics and Optics (SPbSU ITMO) Advisor: Prof. Igor Yu. Popov Topic: *Automatically Derived Languages and Applications to DSLs with Aspects* Our goal is to explore the possibilities of, having a description of a DSL, automatic derivation of languages of typed macros (templates) and structural patterns for this DSL. This helps to automate adding support for generic modules and aspects to DSLs.
2009 – 2010	Visiting PhD student at Institute of Computer Science, University of Tartu, Estonia Advisor: Prof. Marlon Dumas
2007	Master's Degree with Honors in Applied Mathematics and Informatics, Computer Technology Department, SPbSU ITMO, GPA 4.90/5.0 Thesis: *DSL Development Based on Target Meta-models* The main contribution is a language that allows one to declaratively describe an abstract syntax tree (AST) of a DSL as a view (in terms of Model-View architecture) of its target meta-model. These descriptions are used as inputs for a generator of translators from mechanically created ASTs trees to target models (including name resolution).
2005	Bachelor's Degree with Honors in Applied Mathematics and Informatics, Computer Technology Department, SPbSU ITMO, GPA 4.96/5.0 Thesis: Automated Generation of User Interfaces from Domain Models

Teaching

2006 – 2009	*Lecturer* at SPbSU ITMO and AMSE
Courses:	Software Design
	Introduction to Programming
	Algorithms and Data Structures
	Java Programming Language (Basic and Advanced)
	Software Project (supervision)
summer 2008	*Summer internship supervisor* at OpenWay and SwiftTeams / JetBrains (as a part of AMSE project)
2003 – 2009	*Teacher of Informatics* at Lyceum 239, Saint-Petersburg, Russia

Thesis supervision

2009	Egorov Ivan, St. Petersburg State University
	Specialist (eq. of Master) diploma thesis: *Static Thread Types Analysis for Access Management in Multi-Threaded Java Programs*
	Isakova Svetlana, St. Petersburg Polytechnical University
	Bachelor thesis: *Implementation of Declarative QVT Transformations using Maude*
	Ivanova Alena, SPbSU ITMO
	Bachelor thesis: *Extending JVM Instruction Set with Unchecked Method Calls for Speeding Up Execution on Mobile Platforms*
2008	Rybakov Gleb, SPbSU ITMO
	Bachelor thesis: *Graph-based modelling, Generation and LTL−Verification of Data-Oriented User Interfaces*

Software development

2005 – 2006	Borland Labs, Inc., R&D Engineer (Java developer) in Together for Eclipse project, MDA team: work on QVT language implementation, Eclipse plug-in development and integration, EMF modeling, using QVT and XSL/OCL in generative programming samples.
2003	UI development (Delphi) for a suite for automatically planning routs for air photography.
2004	Systems administration in a small hotel ("The Brothers Karamazov hotel").
2004 – 2005	Freelance web development (PHP, MySQL).

Skills

Technical	Java, Scala, C++, Pascal/Delphi, PHP, JavaScript, SQL, XML, XSLT/XPath, HTML/CSS, LaTeX, Linux, Windows
Languages	Russian – native, English – fluent

Grants and Scholarships

- DoRa 5 scholarship for visiting PhD studies at University of Tartu from European Regional Development Funds through Archimedes Foundation, 2009

- An "UMNIK" grant for innovative project development from the *FAISE Foundation*, 2009

- A grant from *The Annual Grant Competition for Young Researchers*, Saint-Petersburg, 2008

- Teaching support grants from

  - Digital Design (2003–2004)
  - Borland Labs Inc (2004–2005)

Publications

- *Creating Textual Language Dialects Using Aspect-like Techniques*, In Pre-Proceedings of GTTSE-2009, Braga, 2009 (extended abstract)

- *Techniques for Formal Grammar Reuse and Their Applications for Creating Dialects*, In Proceedings of KMU-2009, Saint-Petersburg, Russia, April, 2009 (In Russian, abstract in English)

- *Applying MDD and AOP Principles to Grammarware development*, In Proceedings of KMU-2008, Saint-Petersburg, Russia, April, 2008 (In Russian, abstract in English)

- with A. Lukianova, M. Korotkov, *Building Class Hierarchies from Informal English Descriptions*, presented at JASS-2004, published in Nauchno-Technicheskiy Vestnik SPbSU ITMO, Vol 39., 2007, pp. 294-303 (In Russian, abstract in English)

- with A. Efremov, M. Korotkov, *Improving Distance Learning of the Humanities Using RemEd Online system*, In Proceedings of The 6th IST/IMS-2003 Conference, Saint-Petersburg, Russia, 2003 (In Russian, abstract in English).