

Marianna Rapoport

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Education

- 2014–date **PhD in Computer Science**, *University of Waterloo*, supervisor Ondřej Lhoták, thesis topic: Extending Dependent Object Types.
- 2012–2014 **MMath in Computer Science**, *University of Waterloo*, co-supervisors Ondřej Lhoták and Frank Tip, thesis title: Precise data flow analysis in the presence of correlated method calls.
- 2008–2012 **BSc in Computer science**, *Moscow Institute of Radioelectronics, Engineering and Automation*, thesis title: ideah, a Haskell language plugin for IntelliJ IDEA, supervisor Oleg Sobolev.

Internships

- May–Aug'15 Research intern, IBM T.J. Watson Research Centre, Yorktown Heights, NY. I implemented a static-analysis tool that retrieved dynamically constructed URLs from Android applications.
- Sep–Dec'13 Software engineer intern, Twitter, Inc., San Francisco, CA. I implemented new features in the back-end of the direct-messaging and tweet services.

Papers

- 2017 Marianna Rapoport, Ifaz Kabir, Paul He, Ondřej Lhoták, *A Simple Soundness Proof for Dependent Object Types*, to appear at OOPSLA'17.
- 2017 Marianna Rapoport, Ondřej Lhoták, *Mutable WadlerFest DOT*, FTFJP'17
- 2017 Marianna Rapoport, Philippe Suter, Erik Wittern, Ondřej Lhoták, Julian Dolby. *Who You Gonna Call? Analyzing Web Requests in Android Applications*, MSR'17
- 2015 Karim Ali, Marianna Rapoport, Ondřej Lhoták, Julian Dolby, Frank Tip, *Type-Based Call Graph Construction Algorithms for Scala*, TOSEM'15
- 2015 Marianna Rapoport, Ondřej Lhoták, Frank Tip, *Precise Data Flow Analysis in the Presence of Correlated Method Calls*, SAS'15. **(best paper award)**
- 2014 Karim Ali, Marianna Rapoport, Ondřej Lhoták, Julian Dolby, Frank Tip, *Constructing Call Graphs of Scala Programs*, ECOOP'14. **(best artifact award)**

Technical Reports

- 2017 Marianna Rapoport, Ifaz Kabir, Paul He, Ondřej Lhoták, *A Simple Soundness Proof for Dependent Object Types*. Technical report, arXiv:1706.03814, 2017
- 2016 Marianna Rapoport, Ondřej Lhoták, *Mutable WadlerFest DOT*. Technical report, arXiv:1611.07610, 2016

Thesis

- 2014 Rapoport M. *Data Flow Analysis in the Presence of Correlated Calls*, master's thesis, University of Waterloo, August 2014.

Awards

- 2017 Ontario Graduate Scholarship
- 2016 David R. Cheriton scholarship, University of Waterloo
- 2015 Radhia Cousot best young researcher paper award, Symposium on Static Analysis (SAS)
- 2014
 - David R. Cheriton scholarship, University of Waterloo
 - Provost doctoral entrance award, University of Waterloo
 - International Doctoral Student Award, University of Waterloo

- 2012–2014
 - International masters award, University of Waterloo
 - Mathematics graduate experience award, University of Waterloo
 - Graduate research studentship, University of Waterloo
- 2007–2012
 - Russian government scholarship for academic excellence
 - Moscow government nominal scholarship

Service

- 2017 OOPSLA artifact evaluation committee (AEC) member
- 2016 OOPSLA AEC member
 - SPLASH student volunteer
 - Organizing type-and-effect systems reading group in PL group
 - Created and maintaining website of PL group
- 2015 SPLASH student volunteer
- 2014 ECOOP student volunteer

Open Source

- IDE algorithm An implementation of the Interprocedural Distributive Environment algorithm using the WALA framework for static analysis on Java bytecode
- ideah A Haskell language support plugin for IntelliJ IDEA

Some of my projects can be found on github.com/amaurremi and code.google.com/p/ideah.

Summer Schools

- July'17 **DeepSpec Summer School**, *University of Pennsylvania, PA.*
- June'16 **Oregon Programming Languages Summer School**, *University of Oregon, OR.*
- Apr'11 **Midlands Graduate School in the Foundations of Computing Science**, *University of Nottingham, England.*
- Aug'10 **Utrecht Summer School in Applied Functional Programming**, *Utrecht University, Netherlands.*

Coursework

- CS 798 Software foundations (programming in Coq), instructor Prabhakar Ragde, *100.*
- CS 662 Formal languages and parsing, instructor Jeffrey Shallit, *93.*
- CS 644 Compiler construction, instructor Ondřej Lhoták, *92.*
- CS 798 Reduction semantics for functional programming languages, instructor Prabhakar Ragde, *92.*
- CS 842 Memory management and garbage collection, instructor Gregor Richards, *93.*
- CS 842 Virtual machines for dynamic languages, instructor Gregor Richards, *100.*

Teaching

- 2017
 - TA for CS 245E: Logic and computation (enriched)
 - TA for CS 444/644: Compiler construction
- 2015–2016 TA for CS 241e: Foundations of sequential programs (Enriched)
- 2014 TA for CS 442/642: Principles of Programming Languages
- 2013 Teaching tutorials for CS 136: Elementary algorithm design and data abstraction

Talks

- 2016 Tracking side effects using the type system in Scala. Oregon Programming Languages Summer School, Eugene, OR.

- 2015
 - Precise data-flow analysis in the presence of correlated method calls. Static Analysis Symposium, Saint-Malo, France.
 - Static analysis of web-API usage in Android applications. IBM T.J. Watson Research Centre, Yorktown Heights, NY.
 - Inter-procedural analysis with infinite domains in WALA. Workshop on WALA (WoW) at PLDI and FCRC, Portland, Oregon.
- 2014 Data flow analysis in the presence of correlated calls. Poster for the David R. Cheriton Symposium, University of Waterloo, Canada.
- 2012 Software transactional memory in Haskell. Seminar for the Functional languages workshop, Faculty of Computational mathematics and cybernetics, Moscow State University, Russia.

Languages

programming **Scala, Haskell, Coq, Scheme, Java, C.**

natural **Russian**, native; **German**, native; **English**, fluent; **French**, intermediate; **Spanish**, beginner

Other

2002 5th place at German Cup in Rhythmic Gymnastics (ribbon), St Wendel, Germany.

2001 Participated in German Championship in Rhythmic Gymnastics (group routine, rope), Bremen, Germany.