Nomair Naeem

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Education

- Ph.D. (2013)
  Department of Computer Science, Faculty of Mathematics, University of Waterloo, Canada
  Thesis Title: Validating Temporal Properties of Multiple Interacting Objects
- Certificate in University Teaching (2010)
  Centre for Teaching Excellence, University of Waterloo, Canada
- M.Sc. (2006, CGPA 4.00):
  School of Computer Science, McGill University, Canada
  Thesis Title: Programmer-Friendly Decompiled Java
- B.Sc. (2003, Honours, Dean's Honour List, CGPA: 3.97):
  School of Computer Science, McGill University, Canada
  Thesis Title: Exp. DB: Fast Development of Experimental Information Systems

Employment

- **Lecturer and Academic Advisor, University of Waterloo (2014-present)**
  - Teaching undergraduate and graduate Computer Science courses
  - Academic advising for undergraduate students;
- **Sessional Instructor, University of Waterloo (7 terms, 2007-2014)**
- **Senior Developer R&D, OpenText Corporation, Waterloo, Canada. (June/11 - Feb/12)**
  - New backend for a Domain Specific Language (DSL) using the LLVM Compiler Infrastructure
  - Spearhead the creation of a new language syntax to enable source-code based development of the DSL, and an accompanying compiler to generate Linked Libraries
- **Sessional Instructor, McGill University (3 terms, 2004-2006)**
- **Design Engineer, Biotechnology Research Institute (BRI), National Research Council, Montreal, Canada. (May/01 - Dec/02)**

Awards and Honours

- David R. Cheriton Graduate Scholarship, University of Waterloo, 2009-2011
- NSERC Canada, Canada Graduate Scholarship (CGS-D), 2006 – 2008
- President's Graduate Scholarship, University of Waterloo, 2006 –2008
- NITC Bursary, Province of Quebec, Canada, 2004
- NSERC Canada, Canada Graduate Scholarship (CGS-M), 2004 – 2005
- FQRNT, Bourse de doctorat en recherche (Postgraduate Scholarship), 2004 – 2005 (Declined)
- IT Fellowship, School of Computer Science, McGill University, 2004
- Faculty of Science Top-Up, McGill University, 2004
- E. R. Crawford Scholarship, School of Computer Science, McGill University, 2001
- J. R. McConnell Award, School of Computer Science, McGill University, 2001
- Excellence in Physics, University of London, England, UK, 1998

Teaching Activities

Courses taught at University of Waterloo[1]

Code	Course Name	Level	Terms	Sections
CS 136	Elementary Algorithm Design and Data Abstraction	Undergraduate	2	4
CS 246	Object-Oriented Software Development	Undergraduate	11	25
CS 241	Foundations of Sequential Programs	Undergraduate	6	11
CS 444 CS 644	Compiler Construction	Undergraduate Graduate	3	3
CS 744	Advanced Compiler Design	Graduate	1	1

[1] As of August 2019

Relevant teaching related activities

- Certificate in University Teaching, Centre for Teaching Excellence, University of Waterloo, 2010
- Workshops on teaching pedagogy, Centre for Teaching Excellence, University of Waterloo
- Attendee, Teaching and Learning Conference, University of Waterloo, 2018 and 2019

Service

Committees

- 2019-present, 2015-2016, Undergraduate Recruitment Committee (UGREC),
  School of Computer Science, University of Waterloo (member)
- 2018-2019, Women in Computer Science Committee (WICS),
  School of Computer Science, University of Waterloo (member)
- 2017-2018, Undergraduate Academics Plan Committee (UAPC),
  School of Computer Science, University of Waterloo (member)
- 2016-2017, Commons Committee,
  School of Computer Science, University of Waterloo (member)

Undergraduate Academic Advising

- Academic planning, course information, class enrolment, course add/drop approval
- Assessment/approval of CS courses for incoming/outgoing exchange students and transfer credits for courses taken at other institutes
- Point of contact for international students enrolled in joint academic programs with other universities

Community Service

- Board of Directors, Bright Starts Cooperative Early Learning Centre Inc, 2018-present
- Construction Crew Member, Habitat for Humanity Waterloo Region, (when time allows)

Research and Scholarship

Summary of publications

Publication Type	Single Author	Co-Authored	Total
Refereed Journals	0	1	1
Refereed Conference Proceedings	0	9	9
Student Symposiums	1	0	1

Refereed Journal Publications[2]

- Eric Bodden*, Laurie Hendren, Patrick Lam, Ondřej Lhoták, Nomair Naeem*. Collaborative runtime verification with tracematches. Journal of Logic and Computation, Volume 20, Issue 3, June 2010, Pages 707-723, *This is an extended version of the RV 2007 conference paper below.*

Refereed Conference Publications

- Nomair A. Naeem*, Ondřej Lhoták. Faster Aias Set Analysis Using Summaries. *Compiler Construction (CC 2011)* , Pages 82-103, March 2011, Saarbrucken, Germany.
- Nomair Naeem*, Ondřej Lhoták, Jonathan Rodriguez*. Practical Extensions to the IFDS Algorithm. *Conference on Compiler Construction (CC 2010)*, Pages 124-144, March 2010, Paphos, Cyprus.
- Nomair A. Naeem*, Ondřej Lhoták. Efficient Alias Set Analysis using SSA Form. *International Symposium on Memory Management (ISMM 2009)* , Pages 79-88, June 2009, Dublin, Ireland.
  A preliminary version appears as University of Waterloo SCS technical report CS-2008-22.
- Nomair Naeem*, Ondřej Lhoták. Typestate-like Analysis of Multiple Interacting Objects. *ACM SIGPLAN Conference on Object Oriented Programming Systems, Languages, and Applications (OOPSLA 2008)*, Pages 347-366, October 2008, Nashville, USA.
  A preliminary version appears as University of Waterloo SCS technical report CS-2008-04.
- Eric Bodden*, Laurie Hendren, Patrick Lam, Ondřej Lhoták, Nomair A. Naeem*. Collaborative Runtime Verification with Tracematches. *Runtime Verification, 7th International Workshop (RV 2007)*, Pages 22-37, March 2007, Vancouver, Canada.

[2]

- Authors who were graduate students at the time of publication are marked with a *.
- The order in which co-author names appear indicates the level of contribution by the author, with the author contributing the most appearing first.

- Nomair A. Naeem*, Michael Batchelder*, Laurie Hendren. Metrics for Measuring the Effectiveness of Decompilers and Obfuscators. *15th IEEE International Conference on Program Comprehension (ICPC 2007)*, Pages 253-258, June 2007, Banff, Canada.
  A preliminary version appears as Sable technical report 2006-04.

- Nomair A. Naeem*, Laurie Hendren. Programmer-Friendly Decompiled Java. *14th IEEE International Conference on Program Comprehension (ICPC 2006)*, Pages 327-336, June 2006, Athens, Greece.
  A preliminary version appears as Sable technical report 2006-02.

- Xueli Li*, Nomair A. Naeem*, Bettina Kemme. Fine-Granularity Access Control in 3-tier Laboratory Information Systems, Pages 391-397, *9th International Database Engineering and Applications Symposium (IDEAS 2005)*, July 2005, Montreal, Canada.

- Nomair A. Naeem*, Stephane Raymond, Anne Poupon, Miroslaw Cygler, Bettina Kemme. Exp-DB: Fast Development of Information Systems for Experiment Tracking. *15th Conference on Advanced Information Systems Engineering (CAISE 2003)*, June 2003, Klagenfurt/Velden, Austria.

Other Publications

- Nomair A. Naeem*. Validating Temporal Properties of Interacting Objects. *Doctoral Symposium, 23rd annual ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications (OOPSLA 2008)*, October 2008, Nashville, USA.

Contributions to Software

- Dava: A decompiler for arbitrary Java bytecode.
  Available as part of Soot, a Java bytecode analysis and transformation framework.
  `http://www.sable.mcgill.ca/soot`

Posters/Talks

- *Soot - a Java Bytecode Analysis and Transformation Framework*
  Poster at CASCON 2010 Technology Showcase, Toronto, November, 2010

- *Validating Temporal Properties of Multiple Interacting Objects*
  Poster at Cheriton Symposium, University of Waterloo, September 2010

- *Dataflow Analysis*
  Invited Talk: Computer Science Club, University of Waterloo, July 2010

- *Typestate-like Analysis of Multiple Interacting Objects*
  WatFORM formal methods group, University of Waterloo, October 2008

- *AspectJ and Tracematches*
  Guest Lecture – Compiler Construction, University of Waterloo, March 2007

- *Precise and Efficient Must-alias Analysis*
  Two part Programming Languages Group Seminar, University of Waterloo, January 2007