

Mario J. Badr

CONTACT INFORMATION	The Edward S. Rogers Department of Electrical and Computer Engineering Room 1107, Sandford Fleming Bldg. 10 King's College Road, Toronto, ON M5S 3G4 Canada University of Toronto
EDUCATION	University of Toronto , Toronto, Ontario, Canada Ph.D., Computer Engineering, September, 2013 - Present Dissertation: "Developing Novel Evaluation Methodologies for Assessing Multi-Threaded Applications" Advisor: Natalie Enright Jerger University of Toronto , Toronto, Ontario, Canada M.A.Sc, Computer Engineering, January, 2014 Thesis: "Synthetic Traffic Models That Capture Cache Coherent Behaviour" Advisor: Natalie Enright Jerger University of Toronto , Toronto, Ontario, Canada B.A.Sc, Electrical Engineering, May, 2011
RESEARCH INTERESTS	Many/multi-core architectures, cache coherence, interconnection networks, application modelling, machine learning, design space exploration.
PEER-REVIEWED PUBLICATIONS	Joshua San Miguel, Mario Badr , and Natalie Enright Jerger. Load Value Approximation. In Proceedings of the International Symposium on Microarchitecture (MICRO), to appear, December 2014. (acceptance rate: 19%) Mario Badr and Natalie Enright Jerger. SynFull: Synthetic Traffic Models Capturing a Full Range of Cache Coherence Behaviour. In Proceedings of the International Symposium on Computer Architecture (ISCA), June 2014. (acceptance rate: 18%)
PRESENTATIONS AND POSTERS	International Workshop on Parallelism in Mobile Platforms <i>Paper</i> <i>June, 2015</i> Ajaykumar Kannan, Mario Badr, Parisa Khadem Hamedani and Natalie Enright Jerger. <i>Offloading to the GPU: An Objective Approach</i> International Symposium on Microarchitecture <i>Poster</i> <i>December, 2014</i> Joshua San Miguel, Mario Badr, and Natalie Enright Jerger. <i>Load Value Approximation</i> International Symposium on Computer Architecture <i>Presentation</i> <i>June, 2014</i> Mario Badr and Natalie Enright Jerger. <i>SynFull: Traffic Models Capturing Cache Coherence Behaviour</i>

INDUSTRY
EXPERIENCE

Qualcomm Research Silicon Valley, Santa Clara, California, USA

Intern

May, 2015 - August, 2015

Used the Multicore Asynchronous Runtime Environment (MARE) to develop a complex application, with domain-specific kernels in C++, openCL, and Hexagon. Provided feedback to the MARE team on performance issues and bottlenecks.

Environment Canada, Toronto, Ontario, Canada

Intern

June, 2009 - August, 2010

Implemented new features and bug fixes for the NinJo workstation, a java-based tool for meteorologists. Notable projects include upgrading the visualization framework for lightning strikes to be faster and use significantly less memory, incorporating storm cell data for Canada, and helping to create a configurable view of weather data for a given storm cell.

TEACHING
EXPERIENCE

Engineering Strategies and Practice, 1st Year Undergraduate

Teaching Assistant

Tutorials

Supervised students through the design process for a given project and provided feedback on written design documents, with a focus on stimulating an engineering methodology to design.

Computer Fundamentals, 1st Year Undergraduate

Teaching Assistant

Tutorials, Computer Lab

Taught the fundamentals of computer programming in C, including data structures, recursion, and sorting algorithms.

Computer Organization, 3rd Year Undergraduate

Teaching Assistant

Computer Lab

Supervised and helped students implement a simple von Neumann processor using verilog.

Computer Architecture, 4th Year Undergraduate & Graduate

Teaching Assistant

Tutorials, Computer Lab

Taught computer architecture concepts, including caches, pipelining, out-of-order cores, and cache coherence.

PROFESSIONAL
DEVELOPMENT

Prospective Professors in Training

Thirteen Seminars, One full-semester course

2014-2015

Began preparations for becoming a professor in academia, attending several seminars and preparing a preliminary teaching dossier and research statement. Also completed a course on Teaching Engineering in Higher Education.

Mini-MBA

Ten Classes

2015

Gained an understanding of fundamental business concepts and applied what I learned in a group-based case competition.

Oral Presentation Skills

Five Classes

2014

Examined presentation structure and the use of visual aids. Exchanged feedback with peers and the instructor on individual oral presentations.

Prewriting Strategies for Developing and Organizing Your Ideas

Four Classes

2014

Learned several new strategies for developing and organizing ideas before (and during) the writing process.

NSERC Proposal Workshop

Three Classes

2014

Examined features of good and bad proposal writing, and exchanged feedback with peers on our own NSERC proposals.

Teaching Fundamentals Certificate

Six Workshops

2012-2013

Improved my teaching skills with workshops on pedagogy, research, academic integrity, and students in difficulty.

**SCHOLARSHIPS &
AWARDS**

Thomas Noakes & Queen Elizabeth II Graduate Scholarship - \$15,000

2015

TA Teaching Excellence Award - \$200

2015

TD Bank Higher Education Award - \$3,800

2007

**UNIVERSITY
SERVICE**

Member

Bargaining Support Committee, *January - April, 2014*

Steward

Canadian Union of Public Employees, *2013-2014*

Social Event Coordinator

Electrical and Computer Engineering Graduate Student Society, *2012-2013*