

Daniel Fryer
Curriculum Vitae

Department of Computer Science
University of Toronto
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EDUCATION

- Ph.D., Department of Computer Science, University of Toronto** **2017**
Thesis: “Invariants for Crash Consistent Storage Systems”
Supervisors: Dr. Angela Demke Brown and Dr. Ashvin Goel
- M.Sc., Department of Computer Science, University of Toronto** **2011**
Supervisors: Dr. Angela Demke Brown and Dr. Ashvin Goel
- B.Sc., Department of Computer Science, University of Victoria** **2006**
Computer Science (Hons.)

PUBLICATIONS

Journal Articles

Daniel Fryer, Dai Qin, Kuei Sun, Kah Wai Lee, Angela Demke Brown and Ashvin Goel. Checking the Integrity of Transactional Mechanisms. In *ACM Transactions on Storage*, Oct 2014. (Extended version of FAST 2014, below)

Daniel Fryer, Jack Sun, Rahat Mahmood, TingHao Cheng, Shaun Benjamin, Ashvin Goel and Angela Demke Brown. Recon: Verifying File System Consistency at Runtime. In *ACM Transactions on Storage*, Nov 2012. (Extended version of FAST 2012, below)

Conference Proceedings

Daniel Fryer, Dai Qin, Kuei Sun, Kah Wai Lee, Angela Demke Brown and Ashvin Goel. Checking the Integrity of Transactional Mechanisms. In *Proceedings of the 12th USENIX Conference on File and Storage Technologies (FAST)*, Feb 2014.

Daniel Fryer, Jack Sun, Rahat Mahmood, TingHao Cheng, Shaun Benjamin, Ashvin Goel and Angela Demke Brown. Recon: Verifying File System Consistency at Runtime. In *Proceedings of the 10th USENIX Conference on File and Storage Technologies (FAST)*, Feb 2012. **Awarded best paper.**

Workshops and Short Papers

Kuei Sun, **Daniel Fryer**, Dai Qin, Angela Demke Brown, and Ashvin Goel. Robust consistency checking for modern filesystems. In *Proceedings of the International Conference on Runtime Verification (RV)*, Sep 2014.

Kuei Sun, **Daniel Fryer**, Angela Demke Brown and Ashvin Goel. Annotation for automation: Rapid generation of file system tools. In *Workshop on Programming Languages and Operating Systems (PLOS)*, November 2013.

Kuei Sun, **Daniel Fryer**, Ashvin Goel and Angela Demke Brown. Using Declarative Invariants for Protecting File-System Integrity. In *Workshop on Programming Languages and Operating Systems (PLOS)*, Oct 2011.

TEACHING EXPERIENCE

Instructor, CSC 369 (Operating Systems) Winter 2014

Teaching Assistant, CSC 369 (Operating Systems) (9 semesters) Fall 2010 – Fall 2015

Teaching Assistant, CSC 258 (Computer Organization) Winter 2010

Teaching Assistant, CSC 180 (Intro to Programming) Fall 2009

RESEARCH EXPERIENCE

Research Intern, **Hewlett Packard Enterprise** July – October 2016
1501 Page Mill Rd., Palo Alto, California

I worked on *Project Blackcomb*, an initiative to develop technology that takes advantage of *Non-Volatile Memory* over a high-performance memory fabric. I developed a framework for protecting the integrity of applications using NVM and contributed to the design of a library for high-performance transaction logging.

Research Intern, **Microsoft Research (Cambridge)** April – June 2016
21 Station Road, Cambridge CB1 2FD, United Kingdom

I worked in the Systems and Networks group exploring next-generation options for high-density, rack-scale storage systems.

Research Intern, **NetApp Inc.** May – August 2012
495 East Java Drive, Santa Clara, California

Working in the Advanced Technology Group, I analyzed large datasets gathered from storage appliances to gain insights into storage management.

Research Assistant (Undergraduate), **University of Victoria** Fall 2005
Supervised by Dr. Valerie King, I reported on research into wireless sensor networks and lower bounds on space complexity for streaming algorithms.

AWARDS

NSERC Canada Graduate Scholarship (Doctoral)	2012-2015
Pekka K. Sinervo Scholarship	2013
Best Paper, FAST 2012	2012
Ontario Graduate Scholarship	2011-2012
NSERC Canada Graduate Scholarship (Masters)	2009-2010
Helen Sawyer Hogg Graduate Admission Award	2009
NSERC Undergraduate Student Research Award	2005

OTHER EMPLOYMENT

Lead Programmer, **InLight Entertainment** 2007-2009
Developed games for the Nintendo DS and other platforms. C++, Flash, and Ruby. Engine programming (graphics, physics), game logic and toolchain development. Scheduling deliverables for junior programmers.

Programmer, **RealtyServer Systems** 2006-2007
Java-based web application backend, SQL.

SERVICE

Conference paper reviews (under supervision) 2011-2015
SOSP, FAST, ASPLOS, EuroSys, SoCC, ICAC

Steward 2013-2016
Represented teaching assistants in the department to CUPE

President, Computer Science Graduate Student Benevolent Society 2011-2013
Organized social activities for graduate students, acted as liason between the Department and graduate students, recruited volunteers, and participated in faculty meetings.

Departmental Committees

Breadth Requirement Committee
Undergraduate Affairs Committee