

David Evans

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Nationality: Canadian

Education

- PhD (2005): Computer Science, University of Waterloo. Thesis: “Resource Management for Delivery of Dynamic Information.” Supervisor: Professor Johnny Wong
- MMath (1996): Computer Science, University of Waterloo. Thesis: “An Architecture for Enforcement of Usage Contracts in Distributed Multimedia Systems.” Supervisor: Professor Johnny Wong
- BSc (1994): Computing and Information Science, University of Guelph
- BA (1994): English Literature, University of Guelph

Relevant professional experience

- April 2006–present: Research Associate; Computer Laboratory, University of Cambridge. Examining issues of security, privacy, and data provenance in distributed middleware, with transport monitoring and health care as exemplar applications; incorporation into event-based middleware of security facilities based on information flow control.
- April 2005–March 2006: Post Doctoral Fellow; Faculty of Computer Science, Dalhousie University. Led project integration team to develop an infrastructure for privacy-sensitive unobtrusive monitoring of frail individuals.
- May 1997–March 2005: Research Assistant (Prof. Johnny Wong), Research Assistant, Research Assistant Professor; David R. Cheriton School of Computer Science, University of Waterloo. Development of algorithms and software for resource allocation and capacity planning in managed grid and non-grid computing environments; enhancing server scalability through proxy caching and the associated resource consumption/staleness tradeoff.
- May–August 2000, 2001, 2002: Ph.D. fellowship internship, Centre for Advanced Studies, IBM Toronto Laboratory. Implementation of performance monitoring of electronic commerce applications; design and prototyping of mechanisms to support electronic commerce scalability and reliability; exploration of architectures to improve scalability and reliability of IBM’s electronic commerce products.
- September 1996–April 1997: Research Associate, David R. Cheriton School of Computer Science, University of Waterloo. Integration team leader for the Canadian Institute for Telecommunications Research Broadband Services Major Project, entailing construction of a distributed multimedia and distance education system.
- August 1994–August 1996: Research Assistant, Prof. Johnny Wong, University of Waterloo. Part of Integration Team for Canadian Institute for Telecommunications Research Broadband Services Major Project. Designed and

implemented an architecture for contract enforcement within distributed multimedia systems.

- June 1994–July 1994: Research Assistant, Prof. David Swayne, University of Guelph. Construction of a prototype web-accessible geographical information system.
- September 1991–April 1993: Research Assistant, Prof. Jim Linders, University of Guelph. BSD UNIX kernel development, focussing on communication and mass storage device drivers. Design and implementation of a general-purpose DFA-driven RPC protocol engine.

Teaching experience

- February–March 2011:
April–May 2010
April–May 2009: Lecturer, Computer Laboratory, University of Cambridge. Taught Prolog and Concurrent and Distributed Systems II, second-year undergraduate courses introducing the Prolog language and declarative programming and covering fundamental design and implementation of distributed systems. Designed lecture notes, delivered lectures, set and marked examination questions. (Prior to 2010 the CDS course was entitled Distributed Systems and was taken by students in their final year.)
- October 2006–present: Supervisor, Computer Laboratory, University of Cambridge. Supervised final year undergraduate project students and those enrolled in Digital Communications I, Computer Networks, Prolog, and Concurrent and Distributed Systems.
- January–April 2005: Part Time Lecturer, David R. Cheriton School of Computer Science, University of Waterloo. Instructor for final-year undergraduate course in system performance evaluation. Designed lecture notes, delivered lectures, prepared assignments, set and marked test and examination questions, and gave students individual assistance.
- September 1994–April 2003: Teaching Assistant, David R. Cheriton School of Computer Science, University of Waterloo. Responsible for marking, assignment preparation, and student consultation for first-, third-, and fourth-year undergraduate courses in networks, distributed systems, system performance evaluation, operating systems, and introductory computer science.
- September 1992–April 1994: Teaching Assistant, Department of Computing and Information Science, University of Guelph. Responsible for marking, assignment/quiz preparation, laboratory guidance, and student consultation for first-, second-, and third-year undergraduate courses in algorithm analysis, computer architecture/organisation, and introductory computer science.

Other scholarly and administrative activities

- Programme committee member, International Conference on Networked Sensing Systems (INSS 2012), International Workshop on Privacy Management in Mobile Applications (PriMo2011), Canada-France MITACS Workshop on Foundations and Practice of Security (FPS 2011), International Workshop on Model-Based and Policy-Based Engineering in Information Security (MPEIS 2011), International Workshop on Data Privacy Management (DPM 2009, 2010, and 2011), Workshop on Security and Privacy in Cloud Computing (SPCC 2010), International Workshop on Privacy in Pervasive Environments (PiPE 2007)
- Reviewed papers for IEEE PASSAT, Middleware, PerSys, the Privacy Enhancing Technologies Symposium, the International Workshop on Reliability in Decentralized Distributed Systems,

CASCON, the International Symposium on Electronic Commerce, VLDB, ICDCS, the World Wide Web Journal, and the IFIP/IEEE International Conference on Management of Multimedia Networks and Services

- Reviewed research grant proposals for the Research Grants Council of Hong Kong
- Recipient of IBM PhD Fellowship (2002–2003) and IBM Centre for Advanced Studies PhD Fellowship (2000–2002)
- Member of PhD Comprehensive Committee, David R. Cheriton School of Computer Science, University of Waterloo (1998–1999)

Publications

Refereed journals

Wong, J.W., Evans, D. and Kwok, M. “On Staleness and the Delivery of Web Pages,” *Information Systems Frontiers: A Journal of Research and Innovation* 5 (2), April 2003, 129–136.

Wong, J.W., Lyons, K.A., Evans, D., Velthuys, R.J., Bochmann, G.v., Dubois, E., Georganas, N.D., Neufeld, G., Ozsu, M.T., Brinskelle, J., Hafid, A., Hutchinson, N., Iglinski, P., Kerhervé, B., Lamont, L., Makaroff, D. and Szafron, D. “Enabling Technology for Distributed Multimedia Applications,” *IBM Systems Journal* 36 (4), 1997, 474–488.

Refereed conferences

Hosek, P, Miglivacca, M., Papagiannis, I., Eyers, D.M., Evans, D., Shand, B., Bacon, J., Pietzuch, P. “SAFEWEB: A Middleware for Securing Ruby-based Web Applications,” to appear in *Proceedings of the ACM/IFIP/USENIX 12th International Middleware Conference, Lisbon, Portugal, 2011.*

Rathfelder, C., Kounev, S., and Evans, D. “Capacity planning for event-based systems using automated performance predictions,” to appear in *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering, Kansas, USA, 2011.*

Bacon, J., Evans, D., Eyers, D.M., Miglivacca, M., Pietzuch, P., and Shand, B. “Enforcing end-to-end application security in the cloud,” *Proceedings of the ACM/IFIP/USENIX 11th International Middleware Conference, Bangalore, India, 2010, 293–312.*

Bejan, A., Gibbens, R., Evans, D., Beresford, A., Bacon, J., and Friday, A. “Statistical modelling and analysis of sparse bus probe data in urban areas,” *Proceedings of the 13th IEEE Conference on Intelligent Transportation Systems, Madeira, Portugal, September 2010, 1256–1263.*

Rathfelder, C., Evans, D., and Kounev, S. “Predictive modelling of peer-to-peer event-driven communication in component-based systems,” *Proceedings of the 7th European Performance Engineering Workshop (EPEW’10), Bertinoro, Italy, 2010, 219–235.*

Evans, D., Eyers, D.M., and Bacon, J. “Linking policies to the spatial environment,” *Proceedings of the IEEE International Symposium on Policies for Distributed Systems and Networks, George Mason University, USA, July 2010, 73–76.*

Evans, D. and Eyers, D.M. “Efficient policy checking across administrative domains,” *Proceedings of the IEEE International Symposium on Policies for Distributed Systems and Networks, George Mason University, USA, July 2010, 146–153.*

Evans, D. and Warren, R.H. “Anonymity Properties of Stored or Transmitted Data Taken From Bluetooth Scans,” *Proceedings of the International Symposium on Secure Computing, the IEEE International Conference on Information Privacy, Security, Risk and Trust, Vancouver, August 2009, 133–138.*

- Evans, D. and Eyers, D.M. “State Needed To Infer Data Use Compliance in Distributed Transport Applications,” Proceedings of the InMotion Workshop, the 7th International Conference on Pervasive Computing, Nara, May 2009.
- Evans, D. and Eyers, D.M. “Deontic Logic for Modelling Data Flow and Use Compliance,” Proceedings of MPAC '08: the 6th International Workshop on Middleware for Pervasive and Ad-hoc Computing, the ACM/IFIP/USENIX 9th International Middleware Conference, Leuven, December 2008, 19–24.
- Bacon, J., Beresford, A.R., Evans, D., Ingram, D., Trigoni, N., Guitton, A., and Skordylis, A. “TIME: An Open Platform for Capturing, Processing and Delivering Transport-related Data,” Proceedings of the IEEE Consumer Communications and Networking Conference, Las Vegas, January 2008, 687–691.
- Evans, D., Beresford, A.R., Burbridge, T., and Soppera, A. “Context-derived Pseudonyms for Protection of Privacy in Transport Middleware and Applications,” Proceedings of the First International Workshop on Pervasive Transportation Systems, the 5th Annual IEEE International Conference on Pervasive Computing and Communications, White Plains, March 2007, 395–400.
- Kwok, M. and Evans, D. “Characterization of User Interaction in a Multiplayer Online Game,” Proceedings of the ACM Game Design and Technology Workshop, Liverpool, November 2005.
- Wong, J.W., Evans, D. and Kwok, M. “On Staleness and the Delivery of Web Pages,” Proceedings of CASCON 2001, Toronto, November 2001, 156–164.
- Wong, J.W., Evans, D., Georganas, N. Brinskelle, J., Neufeld, G. and Makaroff, D. “An Mbone-based Distance Education System,” Proc. International Conference on Computer Communications, Cannes, France, November 1997, 101–106.
- Evans, D. “An Architecture for Enforcement of Usage Contracts in Distributed Multimedia Systems,” Proceedings of CASCON 1996, Toronto, November 1996.

Refereed magazines

- v. Bochmann, G., Wong, J.W., Evans, D., Lau, T.C., Bourne, D., Kerhervé, B., Salem, M.M., Ye, H. “Scalability of Web-Based Electronic Commerce Systems,” IEEE Communications Magazine 41 (7), July 2003, 110–115.

Book chapters

- Bacon, J., Bejan, A., Evans, D., Gibbens, R., and Moody, K. “Using real-time road traffic data to evaluate congestion,” in Dependable and Historic Computing, edited by C. Jones and J. Lloyd, Lecture Notes in Computer Science 6875, Springer, 2011.
- Moody, K., Bacon, J., Evans, D., and Schwiderski-Grosche, S. “Implementing a practical spatio-temporal composite event language,” in From Active Data Management to Event-Based Systems and More, edited by K. Sachs, I. Petrov, and P. Guerrero, Lecture Notes in Computer Science 6462, Springer, 2010, 108–123.
- Wong, J.W., Evans, D. and Kock, A.W. “Caching and Multicast Delivery,” Electronic Commerce Technology Trends: Challenges and Opportunities, edited by W. Kou and Y. Yesha, Midrange Computing, IBM Press, 2000, 29–40.

Invited papers

- Evans, D., Bacon, J., Beresford, A.R., Gibbens, R., and Ingram, D. “Time for change,” Intertraffic World, Annual Showcase 2010, 52–56.

Workshops

- Evans, D. and Eyers, D.M. "Using properties of physical phenomena and information flow control to manage privacy," IAB/W3C Internet Privacy Workshop, Cambridge MA, December 2010.
- Evans, D. and Beresford, A.R. "Pseudonymous Context-Aware Transport Applications," UK-UbiNet Workshop, London, July 2006.

Selected presentations

- Evans, D. "Using data to inform tactical and strategic decisions about transport," The Internet Of Things For A Sustainable Future, European Science Foundation Exploratory Workshop, Vielsalm, Belgium, May 2011.
- Evans, D. "Pseudonymity is the best that you can do," the PRiMMA Mobile Privacy Workshop, Imperial College, London, September 2010.
- Evans, D. "Inexpensive and effective urban infrastructure for measurement and communications," RFID Europe, Cambridge, September 2009.
- Evans, D. "Creating an open platform for capturing, processing, and delivering transport-related data," Intelligent transport: From module to system, planner to user, innovation to application, London Technology Network, July 2009.
- Evans, D. and Beresford, A.R. "Pseudonymous context-aware transport applications," UK-UbiNet Workshop, London, July 2006.

Selected posters

- Evans, D. "Security and transport applications," Information security: detect, protect, deter, London Technology Network, March 2010.
- Evans, D. "Better data → better transport," Intelligent transport: From module to system, planner to user, innovation to application, London Technology Network, July 2009.
- Evans, D., Beresford, A.R., Burbridge, T., and Soppera, A. "Personal privacy in transport middleware and applications," Recipient of best poster award at the EPSRC WINES workshop, University of Warwick, April 2007.