

The University of British Columbia

Curriculum Vitae for Faculty Members

Date: Aug. 17, 2017 Initials: R.L.

1-4. Basic Information

Surname Lawrence	First Name Ramon
Middle Name(s) Edward	
Department/School Unit 5 – Computer Science, Mathematics, Physics, and Statistics	
Faculty Irving K. Barber School of Arts and Sciences	
Present Rank Associate Professor	Since August 1, 2010

5. Education

a) Degrees

Institution	Degree	Major	Dates	
			Start	End
University of Manitoba	Ph.D.	Computer Science	Sep, 1996	May, 2001
<i>GPA: 4.50 out of 4.50 for all graduate courses.</i>				
University of Manitoba	B.C.Sc. (Honours)	Computer Science	Sep, 1993	May, 1996
<i>GPA: 4.49 out of 4.50 (second highest GPA in Faculty). Completed four-year honours program in three years.</i>				

Title of Dissertation and Name of Supervisor:

"Automatic Conflict Resolution to Integrate Relational Schema", Dr. Ken Barker

6. Employment Record

a) Work prior to coming to UBC

Employer	Department	Position	Dates	
			Start	End
University of Iowa	Computer Science	Assistant Professor	Sep, 2001	Jul, 2006
University of Manitoba	Computer Science	Summer Instructor	May, 2001	Jul, 2001
Johnston Group Inc.		Contract Developer	Aug, 1999	May, 2000
Shindico		Windows Network/System Administrator	Sep, 1998	Sep, 2000
Reimer Express Lines Ltd.		Project Designer/Application Programmer	Jul, 1998	Dec, 1999
CIER		Database and Application Programmer	May, 1998	Oct, 1998

b) At UBC

Employer	Department	Position	Dates	
			Start	End
University of British Columbia	Unit 5 - Computer Science and Mathematics	Associate Professor	Dec, 2011	
University of British Columbia	Unit 4 - Psychology and Computer Science	Associate Professor	Aug, 2010	Dec, 2011
University of British Columbia	Unit 4 - Psychology and Computer Science	Assistant Professor	Aug, 2006	Aug, 2010

7. Leaves of Absence

Employer	Department	Position	Dates	
			Start	End
General Electric (GE)	Software Research Center	Architect/Designer	Jan, 2014	Dec, 2014

8. Teaching & Supervision

a) Areas of special interest and accomplishments

Teaching Philosophy

My goal is for every student to learn the material, pass the course, and improve their skills. Although not all succeed, every student knows that I will work with them if they put in the effort. My student reviews are consistently excellent, and I frequently receive reviews indicating that my teaching or my classes are the “*best that they have ever had.*” ***My instructor and course ratings are significantly above the Computer Science and Faculty norms.***

Significant Achievements

In 2017, I was the recipient of the Provost Award for Teaching Excellence and Innovation which is the highest teaching award at UBC Okanagan and recognizes exemplary role models who have and will continue to have significant impact on the culture of teaching and learning on the Okanagan campus and beyond. I am an 8-time member of the UBC Okanagan Teaching Honour Roll (2007/08, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, 2014/15, 2015/16) recognizing the top 10% of faculty in student evaluations of teaching effectiveness. I was funded for innovative methods for teaching programming. The result was a publication in *IEEE Transactions on Education* and nominations in two successive years for the President’s Instructional Technology Innovation Award, which is the highest innovation in teaching award at the University of Iowa. I built an automated assignment and marking system for science courses funded by a UBC Okanagan Grant for the Integration of Teaching and Research in Undergraduate Education that was used by hundreds of first-year Physics students. I developed new, introductory computer science courses for Arts students (COSC 122 and 123) and a data analytics course (DATA 301) that are some of the most popular and highest enrolment courses in Computer Science.

b) Courses Taught at UBC

My standard teaching load at UBC Okanagan is currently **3 courses per academic year**, although prior to 2013 it was 4 courses per year. Graduate courses **do not count** towards this workload. All undergraduate courses have labs. Although I may have a TA for marking the lab, I prepare all labs and assignments. For many advanced courses, e.g. COSC 304/404, I will interact with students during the lab and answer questions even though a TA is present. These labs where I am periodically present are noted by a *. Labs where I was the primary instructor during the lab hours are listed with the full time (e.g., 2 hours).

Note: Graduate courses are listed in italics. There are no evaluations performed for graduate or independent study courses.

Session	Course	Hours Taught			Rating (out of 5) (Norm. Discipline/Norm. Science)	
		Students	Lecture	Lab	Other	Instructor
2017/2018 Academic Year						
17/18W1	COSC 304 (Intro. Databases)					
17/18W1	COSC 448 Directed Studies	1				
17/18W2	DATA 301/501 (Data Analytics)					
17/18W2	COSC 404/504 (DB Systems)					
17/18WB	COSC 449 (Hon. Thesis - 2 terms)					

Session	Course	Hours Taught			Rating (out of 5) (Norm. Discipline/Norm. Science)		
		Students	Lecture	Lab	Other	Instructor	Course
2016/2017 Academic Year							
16/17Su	COSC 499 Capstone	13				N/A	N/A
16/17Su	COSC 448 Directed Studies	2				N/A	N/A
16/17W1	DATA 301/501 (Data Analytics)	83/9	3			4.91 (4.09/4.05)	4.69 (3.88/3.86)
16/17W1	COSC 304 (Intro. Databases)	86	3			4.95 (4.09/4.05)	4.84 (3.88/3.86)
16/17W1	COSC 447 Directed Studies	1				N/A	N/A
16/17W2	DATA 301/IGS 520 (Data Analytics)	71/8	3			4.91 (N/A/N/A)	4.81 (N/A/N/A)
16/17W2	COSC 448 Directed Studies	1				N/A	N/A
16/17W2	COSC 448 Directed Studies	1				N/A	N/A
16/17WB	COSC 449 (Hon. Thesis - 2 terms)	3				N/A	N/A
2015/2016 Academic Year							
15/16W1	COSC 304 (Intro. Databases)	63	3			4.96 (4.10/4.18)	4.92 (3.88/3.92)
15/16W1	COSC 447 Directed Studies	1				N/A	N/A
15/16W1	COSC 448 Directed Studies	1				N/A	N/A
15/16W2	COSC 404/IGS 509 (DB Systems)	49+1	3			4.79 (4.05/4.24)	4.64 (3.88/4.01)
15/16W2	DATA 301/IGS 520 (Data Analytics)	68+2	3			4.91 (4.05/3.92)	4.68 (3.88/3.75)
15/16WB	COSC 449 (Hon. Thesis - 2 terms)	5				N/A	N/A
2014/2015 Academic Year							
14/15W1	COSC 448 Directed Studies	1				N/A	N/A
14/15W1	IGS 520C (Data Science)	1				N/A	N/A
14/15W2	COSC 404 (DB System Impl.)	38	3	4		4.93 (3.87/4.14)	4.86 (3.84/3.91)
14/15W2	COSC 448 Directed Studies	2				N/A	N/A
14/15Su	COSC 448 Directed Studies	2				N/A	N/A
2013/2014 Academic Year							
13/14W1	COSC 122 (Computer Fluency)	111	3			4.92 (3.93/3.79)	4.65 (3.81/3.57)
13/14W1	COSC 304 (Intro. Databases)	27	3			5.00 (3.93/3.79)	4.67 (3.81/3.57)
13/14W1	COSC 448 Directed Studies	1				N/A	N/A
13/14W1	IGS 509T (User Evaluation)	1				N/A	N/A
13/14W1	IGS 509U (Recommender System)	1				N/A	N/A
13/14WB	COSC 449 (Hon. Thesis - 2 terms)	1				N/A	N/A
2012/2013 Academic Year							
12/13W1	COSC 122 (Computer Fluency)	94	3			4.69 (3.99/3.95)	4.57 (3.88/3.81)
12/13W1	COSC 304 (Intro. Databases)	14	3			5.00 (3.99/4.18)	5.00 (3.88/4.00)
12/13W1	COSC 448 Directed Studies	1				N/A	N/A
12/13W1	IGS 509K (Mobile Interfaces)	1				N/A	N/A
12/13W1	IGS 520A (Advanced HCI)	1				N/A	N/A
12/13WB	COSC 449 (Hon. Thesis - 2 terms)	6				N/A	N/A
12/13W2	COSC 416/IGS 520M (NoSQL)	17 + 5	3			5.00 (4.14/4.24)	4.92 (3.95/4.07)
12/13W2	COSC 123 (Computer Creativity)	32	3			4.90 (4.14/4.24)	4.52 (3.95/4.07)
12/13W2	IGS 520K (Mobile Programming)	1				N/A	N/A
2011/2012 Academic Year							
11/12Su	COSC 448 Directed Studies	2				N/A	N/A
11/12W1	COSC 122 (Computer Fluency)	101	3			4.76 (3.93/3.85)	4.52 (3.80/3.64)
11/12W1	COSC 304 (Intro. Databases)	19	3			5.00 (3.93/4.13)	4.79 (3.80/3.95)
11/12W1	COSC 448 Directed Studies	1				N/A	N/A
11/12WB	COSC 449 (Hon. Thesis - 2 terms)	3				N/A	N/A
11/12W2	COSC 404/IGS 520U (DB Sys.)	17 + 1	3			5.00 (4.42/4.33)	4.85 (4.23/4.07)
11/12W2	COSC 123 (Computer Creativity)	37	3			4.85 (4.42/4.09)	4.54 (4.23/3.95)
11/12W2	IGS 520W (GPU Applications)	1				N/A	N/A
2010/2011 Academic Year							
10/11W1	COSC 122 (Computer Fluency)	98	3			4.88 (3.87/3.85)	4.55 (3.59/3.61)

Session	Course	Hours Taught				Rating (out of 5) (Norm. Discipline/Norm. Science)	
		Students	Lecture	Lab	Other	Instructor	Course
10/11W1	COSC 304 (Intro. Databases)	11	3			4.88 (3.87/4.10)	4.88 (3.59/3.94)
10/11W1	COSC 448 (Directed Studies in CS)	1				N/A	N/A
10/11W1	IGS 520H (Embedded Systems)	1				N/A	N/A
10/11W1	IGS 620B (Education Systems)	1				N/A	N/A
10/11W2	COSC 123 (Intro. to Comp. Sci.)	34	3			4.75 (4.17/4.27)	4.40 (3.80/4.04)
10/11W2	COSC 416A (Special Topics DB)	16	3			4.93 (4.17/4.40)	4.50 (3.80/4.15)
10/11WB	COSC 449 (Hon. Thesis - 2 terms)	2				N/A	N/A
10/11W2	IGS 520L/620L (Sensor DB)	2				N/A	N/A
10/11W2	IGS 620A (Data Aggregation)	1				N/A	N/A
10/11W2	IGS 520U/620N (GPU Program)	4				N/A	N/A
2009/2010 Academic Year							
09/10W1	COSC 304 (Intro. Databases)	9	3			4.78 (4.38/3.85)	4.56 (4.16/3.66)
09/10W1	COSC 122 (Computer Fluency)	68	3			4.64 (4.38/3.85)	4.20 (4.16/3.66)
09/10W1	IGS 501U (Sensor Networks)	2			3	N/A	N/A
09/10W1	IGS 520E (Distributed Databases)	1			3	N/A	N/A
09/10W2	COSC 123 (Intro. to Comp. Sci.)	27	3			4.93 (3.87/4.09)	4.67 (3.75/3.83)
09/10W2	COSC 404/IGS520F/IGS620F (Database Sys. Imp.)	13 + 3	3	2		4.93 (3.87/4.09)	4.71 (3.75/3.83)
09/10W2	COSC 448 (Directed Studies in CS)	2			3	N/A	N/A
09/10WB	COSC 449 (Hon. Thesis - 2 terms)	1			3	N/A	N/A
09/10W2	IGS 501K (GPS Programming)	1			3	N/A	N/A
2008/2009 Academic Year							
08/09W1	COSC 304 (Intro. Databases)	9	3	2*		4.78 (4.17/3.89)	4.78 (3.91/3.70)
08/09W1	COSC 310 (Software Engineering)	10	3	2*		4.80 (4.17/3.89)	4.80 (3.91/3.70)
08/09W1	COSC 122 (Computers in Society)	46	3			4.77 (4.17/3.89)	4.46 (3.91/3.70)
08/09W1	IGS 520E (Distributed Databases)	1			3	N/A	N/A
08/09W1	IGS 520J (Database Algorithms)	1			3	N/A	N/A
08/09W2	COSC 123 (Intro. to Comp. Sci.)	19	3			4.82 (4.03/4.02)	4.27 (3.72/3.77)
08/09W2	IGS 501U (Sensor Networks)	1			3	N/A	N/A
08/09W2	IGS 520A (Network Routing)	1			3	N/A	N/A
08/09W2	IGS 520D (Advanced DB)	1			3	N/A	N/A
08/09W2	IGS 520O (GIS Applications)	1			3	N/A	N/A
08/09W2	IGS 520W (Web App. Servers)	2			3	N/A	N/A
08/09WB	COSC 449 (Hon. Thesis - 2 terms)	1			6	N/A	N/A
08/09W2	COSC 448 (Directed Studies in CS)	1			3	N/A	N/A
08/09Su	COSC 448 (Directed Studies in CS)	1			3	N/A	N/A
2007/2008 Academic Year							
07/08W1	COSC 304 (Intro. Databases)	11	3	2*		4.89 (3.82/4.14)	5.00 (3.62/3.93)
07/08W1	COSC 310 (Software Engineering)	11	3	2*		4.90 (3.82/4.14)	4.60 (3.62/3.93)
07/08W1	IGS 501U (Sensor Networks)	3			3	N/A	N/A
07/08W1	IGS 520E (Distributed Databases)	1			3	N/A	N/A
07/08W2	COSC 122 (Computers in Society)	34	3			4.70 (3.89/4.06)	4.50 (3.79/3.85)
07/08W2	COSC 404 (Database Sys. Imp.)	20	3	2		4.75 (3.89/4.06)	4.44 (3.79/3.85)
07/08W2	IGS 501U (Sensor Networks)	3			3	N/A	N/A
07/08W2	IGS 520D (Advanced DB)	1			3	N/A	N/A
07/08W2	IGS 520J (Database Algorithms)	2			3	N/A	N/A
2006/2007 Academic Year							
06/07W1	COSC 304 (Intro. Databases)	14	3	2*		4.92 (3.57/4.14)	4.58 (3.67/3.83)
06/07W1	COSC 448 (Directed Studies in CS)	1			1	N/A	N/A
06/07W1	COSC 310 (Software Engineering)	14	3	2*		4.75 (3.57/4.14)	4.25 (3.67/3.83)
06/07W2	COSC 328 (TCP/IP Networks)	21	3	2		4.63 (3.67/4.09)	3.88 (3.62/3.81)
06/07W2	COSC 122 (Computers in Society)	37	3			4.47 (3.67/4.09)	3.84 (3.62/3.81)

c) Graduate Students Supervised and/or Co-supervised

Ph.D. Students

Student	Status	Institution	Role	Start	End	Outcome/Description
Scott Fazackerley	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2010	Sept, 2016	Seven publications ; NSERC PGS D ; College professor at Okanagan College
Terrence Mason	Completed	University of Iowa	Thesis Supervisor	Sep, 2002	May, 2006	Assistant Professor at University of Wisconsin-Stout
Eduard Dragut	Transferred	University of Iowa	Thesis Supervisor	Sep, 2003	May, 2004	Transferred to University of Chicago. Completed in 2010. Asst. Prof. at Temple Univ.

Interdisciplinary Graduate Studies (IGS) Master's Students

Student	Status	Institution	Role	Start	End	Outcome/Description
Matthew Fritter	In progress	UBC Okanagan	Thesis Supervisor	Sept, 2017		
Heath Caswell	In progress	UBC Okanagan	Thesis Supervisor	Sept, 2015		
Giuseppe Burtini	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2013	Oct, 2015	Three publications
Ryan Trenholm	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Dec, 2014	One publication ; NSERC CGS M
Tyler Cossentine	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2009	Feb, 2012	Two publications
Scott Fazackerley	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2008	Apr, 2010	One publication NSERC CGS M ; PGS D
Michael Henderson	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2008	May, 2013	Two publications NSERC CGS M
Bryce Cutt	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2007	Mar, 2009	Four publications ; PostgreSQL patch

Master's of Computer Science Students

Student	Status	Institution	Role	Start	End	Outcome/Description
Yan Wang	Completed	University of Iowa	Master's Project Supervisor	Aug, 2005	Dec, 2005	Implemented UnityJDBC query optimizer
Chadwick Johnson	Completed	University of Iowa	Master's Project Supervisor	Jan, 2005	May, 2005	
Smitha Nair	Completed	University of Iowa	Master's Project Supervisor	Jan, 2004	May, 2004	
Jeff Hoft	Completed	University of Iowa	Master's Project Supervisor	Aug, 2003	Dec, 2003	Implemented UnityJDBC query parser
Hehuang Xie	Completed	University of Iowa	Master's Project Supervisor	Jan, 2003	May, 2003	Assistant Professor at Children's Memorial
Min Wang	Completed	University of Iowa	Master's Project Supervisor	Jan, 2003	May, 2003	Assistant Professor at Children's Memorial
Jian Jia	Completed	University of Iowa	Master's Project Supervisor	Aug, 2002	Dec, 2002	US Army Research Grant

Directed Study (Graduate)

Student	Status	Institution	Role	Start	End	Outcome/Description
Ska-Hiish Manuel	Completed	UBC Okanagan	Directed Study Supervisor	May, 2012	Aug, 2012	Soil moisture sensor experimentation
Stephen Smithbower	Completed	UBC Okanagan	Directed Study Supervisor	Jan, 2012	Apr, 2012	Presentation got 3 rd place at UBCO IKBSAS Undergrad Research Conference
Steven McAvoy	Completed	UBC Okanagan	Directed Study Supervisor	Sept, 2009	Dec, 2009	Graduate credit as an undergraduate student
Michael Henderson	Completed	UBC Okanagan	Directed Study Supervisor	Sept, 2007	May, 2008	Done as an undergraduate and continued as graduate student
Scott Fazackerley	Completed	UBC Okanagan	Directed Study Supervisor	Sept, 2007	May, 2008	Received NSERC CGS award
Alina Bejan	Completed	University of Iowa	Directed Study Supervisor	Jan, 2002	May, 2002	Conference publication

Directed Study (Undergraduate)

Student	Status	Institution	Role	Start	End	Outcome/Description
Ryan McQueen	In Progress	UBC Okanagan	Directed Study	Jan, 2018	Apr, 2018	Embedded irrigation systems
Dustin Olychuck	In Progress	UBC Okanagan	Directed Study	Sept, 2017	Dec, 2017	Database systems
Eric Huang	Completed	UBC Okanagan	Directed Study	Jan, 2017	Apr, 2017	IonDB/IINQ ; two publications
Dana Klamut	Completed	UBC Okanagan	Directed Study	Jan, 2017	Apr, 2017	IonDB/IINQ ; one publication
Robert Hill	Completed	UBC Okanagan	Directed Study	Jan, 2017	Apr, 2017	Lab Educational System
Ashan Semasinghe	Completed	UBC Okanagan	Directed Study	Jan, 2017	Apr, 2017	Lab Educational System
Gurpreet Nijjar	Completed	UBC Okanagan	Directed Study	Jan, 2017	Apr, 2017	Software testing and development
Jorge Garcia	Completed	UBC Okanagan	Directed Study	May, 2016	July, 2016	Web site development
Amritpal Shokar	Completed	UBC Okanagan	Directed Study	May, 2016	July, 2016	Web site development
Shayne Krogfoss	Completed	UBC Okanagan	Directed Study	Sept, 2015	Dec, 2015	Data analytics
Jamie Schofield	Completed	UBC Okanagan	Directed Study	Sept, 2015	Dec, 2015	Software Maintenance
Wilco Oberholzer	Completed	UBC Okanagan	Directed Study	May, 2015	Aug, 2015	Web development
Alex Yakovlev	Completed	UBC Okanagan	Directed Study	Jan, 2015	Apr, 2015	Web development
Madison Cunning	Completed	UBC Okanagan	Directed Study	Jan, 2015	Apr, 2015	Development of Metis Database
Tim Rutherford	Completed	UBC Okanagan	Directed Study	Sept, 2014	Dec, 2014	Web development
Raffi Kudlac	Completed	UBC Okanagan	Directed Study	May, 2014	Aug, 2014	Coding on Arduinos ; CCECE publication
Graeme Douglas	Completed	UBC Okanagan	Directed Study	Sept, 2012	Dec, 2012	Continued work on MicroDB ; Received URA in 2012

Student	Status	Institution	Role	Start	End	Outcome/Description
Derrick Pelletier	Completed	UBC Okanagan	Directed Study	May, 2012	Aug, 2012	Commercial web site
William Lee	Completed	UBC Okanagan	Directed Study	May, 2012	Aug, 2012	UseDB Parser
Brant Hardy	Completed	UBC Okanagan	Directed Study (x2)	May, 2011	Dec, 2011	Web site design
Stephen Smithbower	Completed	UBC Okanagan	Directed Study Supervisor	Sept, 2010	Dec, 2010	Efficient rendering algorithms
Stephen Smithbower	Completed	UBC Okanagan	Directed Study Supervisor	Jan, 2010	Apr, 2010	Presentation got 1 st place at UBCO IKBSAS Undergrad Research Conference
Jessica Weeres	Completed	UBC Okanagan	Directed Study Supervisor	Jan, 2010	Apr, 2010	Worked on UnityJDBC
Tyler Cossentine	Completed	UBC Okanagan	Directed Study Supervisor	Jan, 2009	Apr, 2009	Accepted as graduate student
Jocelyn Charland	Completed	UBC Okanagan	Directed Study Supervisor	Aug, 2006	Dec, 2006	Employed at local company

Graduate Committees

Student	Degree	Role	Institution	Date
Jamie McKee-Scott	M.Sc. (Comp. Sci.)	Committee Member	UBC Okanagan	Apr. 2015
Farzad Aminravan	Ph.D. (Mech. Eng.)	University Examiner	UBC Okanagan	Dec. 2013
Salma Kheiravar	M.Sc. (Comp. Sci.)	Committee Member	UBC Okanagan	Nov. 2013

NSERC USRA

Student	Institution	Date	Title
Maria Guenter	UBC Okanagan	Summer 2017	Data Analytics and Data Fusion of Sensor and Public Data
Dana Klamut	UBC Okanagan	Summer 2016	Building databases for the Internet of Things
Eliana Wardle	UBC Okanagan	Summer 2016	Developing high-performance caching database connectors
Wade Penson	UBC Okanagan	Summer 2015	An open-source database for embedded devices
Graeme Douglas	UBC Okanagan	Summer 2013	Building database software for small embedded devices
Robert Trenholm	UBC Okanagan	Summer 2012	Reducing water use by developing integrated management systems
Alyosha Pushak	UBC Okanagan	Summer 2010	Visualizing real-time environmental sensor data
Scott Fazackerley	UBC Okanagan	Summer 2008	Using sensor networks to reduce water consumption

IKBSAS URA

Student	Institution	Date	Title
Graeme Douglas	UBC Okanagan	Summer 2012	Efficient databases on the smallest embedded devices
Robert Trenholm	UBC Okanagan	Summer 2011	Investigating water reduction in civic parks using adaptive irrigation

Undergraduate Honours Thesis

Student	Status	Institution	Role	Start	End	Outcome/Description
Dana Klamut	In Progress	UBC Okanagan	Thesis Supervisor	Sept, 2017	Apr, 2018	
Kyla Reid	In Progress	UBC Okanagan	Thesis Supervisor	Sept, 2017	Apr, 2018	

Student	Status	Institution	Role	Start	End	Outcome/Description
Eric Huang	Completed	UBC Okanagan	Thesis Supervisor	2017 Sept, 2016	2018 Apr, 2017	Efficient Interactive Text Playback for Code Sharing and Tutorials, Winner: Top CS Graduating Student for 2017
Spencer MacBeth	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2016	Apr, 2017	Linear Hashing for Flash Memory on Resource-Constrained Microprocessors
Shan Rajapakshe	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2016	Apr, 2017	Extracting Patient Events from Clinical Text Using NLP
Kevin Eger	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2015	Apr, 2016	Rally analysis system for reddit
Emily Millard	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2015	Apr, 2016	Civic GIS
Wade Penson	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2015	Apr, 2016	TEFS: Tiny Embedded File System (NSERC USRA Winner), Runner-up: Top CS Graduating Student for 2017
Kenny Raharjo	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2015	Apr, 2016	Game evaluation using multi-arm bandits ; publication
Ethan Willoner	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2015	Apr, 2016	GPU encryption
Graeme Douglas	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2013	Apr, 2014	Database for Arduino ; ACM SAC publication ; NSERC USRA
Derrick Pelletier	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	Parks Management System ; IKBSAS URC Presentation
Paul Moore	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	FactorFriends iPhone App; IKBSAS URC Presentation
Cody Clerke	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	Parks Management System ; IKBSAS URC Presentation
William Lee	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	Two publications – Canadian AI and AAAI Student Poster
Andrew Moldovan	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	AutoEdu data analysis ; IKBSAS URC Presentation
Eric Wein	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2012	Apr, 2013	New AutoEdu Interface ; IKBSAS URC Presentation
Jessica Weeres	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2011	Apr, 2012	Restaurant IT Survey ; IKBSAS URC Presentation
Andrew Campbell	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2011	Apr, 2012	Prototype sensor network ; IKBSAS URC Presentation
Ryan Trenholm	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2011	Apr, 2012	One publication ; funded grant MURC (Multi-disciplinary Undergraduate Research Conference – UBCV and UBCO) Top 3 Presentation ; Top Oral Presenter award during the second day of Universitas 21 (U21) International Undergraduate Research Conference.
Alyosha Pushak	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2010	Apr, 2011	Teaching grant ; conference publication ; IKBSAS URC Presentation ; NSERC USRA

Student	Status	Institution	Role	Start	End	Outcome/Description
Jessie Slamka	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2010	Apr, 2011	Graduated with honours ; IKBSAS URC Presentation
Geoffrey Appleby	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2009	Apr, 2010	Graduated with honours ; Best CS Thesis 2010 ; IKBSAS URC Presentation
Jacob Orr	Completed	UBC Okanagan	Thesis Supervisor	Sept, 2008	Apr, 2009	Presentation got 3 rd place at UBCO IKBSAS Undergrad Research Conference
Timothy Montoya	Completed	University of Iowa	Thesis Supervisor	May, 2003	May, 2004	Graduated with honours
Elizabeth Heithoff	Completed	University of Iowa	Thesis Supervisor	May, 2002	May, 2003	Graduated with honours journal publication
Jose Jimenez	Completed	University of Iowa	Thesis Supervisor	Jan, 2002	Dec, 2002	Graduated with honours IREU grant

Summer Student Transfer Program (SSTP)

Student	Status	Institution	Role	Start	End	Outcome/Description
Sam Marcellus Taesoo Kim	Completed	University of Iowa	Directed Study Supervisor	May-Aug.	2002	Research experience for high school students

d) Continuing Education Activities and Courses Taught Outside UBC

Note: There is **no evaluation data** available for the courses at the University of Manitoba or norm data for the University of Iowa.

Title	Organization	Enrolment	Hours	Dates		Rating (out of 6)	
				Start	End	Instructor	Course
22C:244 Database System Implementation	University of Iowa	12	3	Jan, 2006	May, 2006	5.93	5.93
<i>Notes:</i> All 12 students passed. Average GPA = 3.44. 4 students took via streaming video.							
22C:144 Database Systems	University of Iowa	60	3	Aug, 2005	Dec, 2005	6.00	5.93
<i>Notes:</i> 60 students total (46 local, 14 remote over Internet video). 56/60 students passed (93% pass rate). Average GPA = 2.96.							
22C:196 Database Project	University of Iowa	9	3	Aug, 2005	Dec, 2005	6.00	6.00
<i>Notes:</i> Second offering of Unity development course using Java and Eclipse.							
22C:244 Database System Implementation	University of Iowa	9	3	Jan, 2005	May, 2005	6.00	6.00
<i>Notes:</i> 8/9 students passed (89% pass rate). Average GPA = 3.37. Included new programming assignments.							
22C:144 Database Systems	University of Iowa	43	3	Aug, 2004	Dec, 2004	5.88	5.88
<i>Notes:</i> 40/43 students passed (93% pass rate). Average GPA = 2.92. Included large group project building MyBay.							
22C:244 Database System Implementation	University of Iowa	21	3	Jan, 2004	May, 2004	5.86	5.80
<i>Notes:</i> 20/21 students passed (95.2% pass rate). Average GPA = 3.34. 3 students took via streaming video.							
22C:144 Database Systems	University of Iowa	35	3	Aug, 2003	Dec, 2003	5.91	5.84
<i>Notes:</i> 34/35 students passed for a 97.1% pass rate. Average GPA = 2.94. Included large group project.							
22C:030 Computer Science III	University of Iowa	59	3	Jan, 2003	May, 2003	5.94	5.80
<i>Notes:</i> 46/59 students passed for a 72.9% pass rate. Average GPA = 2.63. Introduced capstone project.							
22C:244 Database System Implementation	University of Iowa	24	3	Jan, 2003	May, 2003	5.85	5.77
<i>Notes:</i> 92% pass rate (including 1 withdraw). Permanent course created based on 22C:296 offered in Fall 2001.							

Title	Organization	Enrolment	Hours	Dates		Rating (out of 6)	
				Start	End	Instructor	Course
22C:030 Computer Science III	University of Iowa	74	3	Jan, 2002	May, 2002	5.90	5.75
<i>Notes:</i> 55/74 students passed for a 74.3% pass rate. Average GPA = 3.07. My first time teaching this course.							
22C:296 Advanced Database Seminar	University of Iowa	7	3	Aug, 2001	Dec, 2001	5.80	5.50
<i>Notes:</i> 100% pass rate. New graduate course for department.							
74.102 Introduction to Computer Science II	University of Manitoba	115	9	Jun, 2001	Aug, 2001	Not available	
<i>Notes:</i> 82% pass rate.							
74.101 Introduction to Computer Science I	University of Manitoba	83	9	May, 2001	Jun, 2001	Not available	
<i>Notes:</i> 83.5% pass rate.							

9. Scholarly and Professional Activities

a) Areas of special interest and accomplishments

My primary contribution to scholarship is in the area of database system algorithms and performance. My research group has built the smallest SQL, relational database system for embedded devices called LittleD as well as a key-value store library for Arduinos called IonDB. Other contributions included Early Hash Join (*VLDB 2005*), slice join (*Data and Knowledge Engineering*), and the skew-handling approach in histojoin (*Information Systems*) that has been implemented and included in PostgreSQL version 8.4 (open source database system) for improving its join performance.

My Ph.D. thesis on database integration led to the implementation of JDBC drivers for database integration and virtualization including JDBC drivers for MongoDB, Splunk, and ServiceNow which have been downloaded by thousands of users and supported as commercial products by <http://unityjdbc.com>.

My broader contributions are on the application of database technology to data analysis including the Digital Archive Database Project for historical Métis records (<http://dadp.ok.ubc.ca>), the construction of the NEXRAD weather data archive, and the use of sensor networks for irrigation management and water conservation.

b) Research or equivalent grants

Competitive External Grants

Granting Agency	Project Title	Amount	Years		Description
			Start	End	
NSERC Discovery	Embedded Databases for the Internet of Things	\$100,000	May 2017	May 2022	\$20,000 per year for 5 years
Aboriginal Affairs and Northern Development Canada	Digital Archive Database (DAD) Project (Phase 2)	\$112,700	Sept 2015	May 2017	Co-PI: Mike Evans.
Aboriginal Affairs and Northern Development Canada	Digital Archive Database (DAD) Project	\$35,000	Sept 2015	May 2016	PI: Mike Evans. Role was researcher on database development.
NSERC Discovery	Efficient Data Management for Tiny Embedded Devices	\$85,000	May 2012	May 2017	\$17,000 per year for 5 years
Okanagan Basin Water Board	Reducing Water used for Irrigation by Active Management	\$20,000	May 2012	May 2013	Collaboration with City of Kelowna
NSERC Engage	Improving the Efficiency of Network Monitoring by Database Optimization	\$24,000	May 2010	Nov. 2010	Industrial partner for research was Vineyard Networks.
Canadian Foundation for Innovation and British	Distributed Database Laboratory	\$247,500 total \$99,000 CFI	Sept. 2008	Sept. 2013	Awarded CFI/BCKDF funding for construction of

Granting Agency	Project Title	Amount	Years		Description
			Start	End	
Columbia Knowledge Development Fund		\$99,000 BCKDF \$49,500 local			database laboratory in new Arts and Science II building.
NSERC Discovery	Dynamic Database Integration for Knowledge Sharing	\$90,000	2007	2012	\$18,000 per year for 5 years
National Science Foundation (NSF)	A Comprehensive Framework for Use of Next Generation Weather Radar (NEXRAD) Data in Hydrometeorology and Hydrology	\$1,458,105 USD	2004	2008	(co-PI) PI: W. Krajewski Medium ITR under Directorate for Geosciences \$25,000 awarded as UBCO subcontract for 2007-2008
US Army Research Office	A JDBC Driver for Integration	\$26,000 USD	2003	2003	UnityJDBC system ; two publications

Competitive Internal Grants

Granting Agency	Project Title	Amount	Years		Description/Outcome
			Start	End	
UBC Okanagan	Travel Grant	\$2,000	2014	2014	For SAC 2014 conference
UBC Okanagan	Reducing Water Usage in Civic Parks Using Adaptive Irrigation	\$10,000	2011	2011	City of Kelowna irrigation partnership and presentation at Sustainability Forum
UBC Okanagan	Travel Grant	\$2,000	2010	2010	For AI 2010 conference
UBC Okanagan	Improving Pedagogical Efficiency and Effectiveness using an Automated Testing System	\$10,000	2010	2012	Deployed in first year Physics courses ; conference publication
UBC Martha Piper Award	Reducing Water Consumption for Irrigation using a Wireless Soil Moisture Sensor Network	\$25,000	2009	2011	Irrigation system produced reduced water usage for irrigation by 50%
UBC Okanagan	Reducing Water Consumption for Lawn Irrigation by Using a Soil Moisture Sensor Network	\$5,000	2008	2009	IEEE SAS publication (Best Student Paper)
UBC Okanagan	Building a Weather Data Archive for Scientific Discovery	\$5,000	2007	2008	ACM SAC 2008 publication
University of Iowa	Building an Integrated Clinical and Expression Database	\$35,000 USD	2005	2005	
University of Iowa	Teaching Competitive Games	\$5,100 USD	2004	2004	IEEE Trans. Ed. article ; honours student
University of Iowa	A NEXRAD Data Warehouse	\$25,000 USD	2003	2003	NEXRAD ITR funding ; two publications
University of Iowa	Data Documentation in Unity	\$2,000 USD	2003	2003	
John Deere Foundation	Exploratory Projects	\$8,000 USD	2003	2003	

Non-Competitive Internal Grants

Granting Agency	Project Title	Amount	Years		Description
			Start	End	
UBC Okanagan	Startup Funding	\$15,000	2006	2009	
University of Iowa	Old Gold Fellowship	\$6,000 USD	2002	2002	
University of Iowa	University of Iowa Startup Funding	\$30,000 USD	2001	2001	

d) Presentations

(i) Invited

Title	Conference or Event	Date
Improving Application Performance with JDBC	San Francisco Java Users Group	June, 2016
Improving Application Performance with JDBC	Silicon Valley Java Users Group	May, 2016
Using Technology for Golf Course Management	Annual General Meeting of Golf Superintendents of BC	Nov, 2015
Techniques for Managing and Integrating Data	True North Science Bootcamp for Canadian Librarians	May, 2015
Reducing Water Usage with Sensor Networks and Data Analysis	Unit 5 Seminar Series	March, 2012
Reducing Water Usage with Sensor Networks and Data Analysis	IEEE Okanagan Subsection Presentation	June, 2012
Integration Challenges in Bioinformatics	Center for Bioinformatics and Computational Biology Seminar Series (University of Iowa)	Feb, 2003
Unlocking the Scientific Value of NEXRAD Weather Radar Data	Iowa Academy of Science General Meeting (Best presentation in Engineering section.)	2003

(ii) Other

Title	Conference or Event	Date
Accelerate Existing Applications without Changing Code using Hazelcast and Heimdall	Online webinar	Feb, 2016
Unlocking the Scientific Value of Weather Radar Data	UBC Okanagan Research Week	Mar, 2007

g) Conferences and Other Events

(i) Administration/Organization

Conference Program Committees

Date	Conference or Event
March 2017	19 th International Conference on Enterprise Information Systems (ICEIS 2017)
March 2017	32 nd ACM Symposium of Applied Computing, Database Track (SAC 2017)
March 2016	18 th International Conference on Enterprise Information Systems (ICEIS 2016)
March 2016	31 st ACM Symposium of Applied Computing, Database Track (SAC 2016)
Feb. 2016	29 th IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2016)
April 2015	17 th International Conference on Enterprise Information Systems (ICEIS 2015)
March 2015	30 th ACM Symposium of Applied Computing, Database Track (SAC 2015)
April 2014	30 th IEEE International Conference on Data Engineering (ICDE 2014) – Ph.D. Symposium
April 2014	16 th International Conference on Enterprise Information Systems (ICEIS 2014)
March 2014	29 th ACM Symposium of Applied Computing, Database Track (SAC 2014)
March 2013	International Symposium on High-level Parallel Programming and Applications (HLPP 2013)
March 2013	28 th ACM Symposium of Applied Computing, Database Track (SAC 2013)
March 2012	27 th ACM Symposium of Applied Computing, Database Track (SAC 2012)
March 2012	International Workshop on Security and Performance in Cloud Computing (SPCLOUD 2012)
March 2011	26 th ACM Symposium of Applied Computing, Database Track (SAC 2011)
March 2011	International Workshop on Security and Performance in Cloud Computing (SPCLOUD 2011)
March 2010	25 th ACM Symposium of Applied Computing, Database Track (SAC 2010)
Spring 2010	Local Arrangements, 15 th Western Canadian Conference on Computing Education 2010, Kelowna, BC
May 2009	Local Arrangements, co-chair, Intelligent Systems Collaborative - AI/GI/CRV 2009, Kelowna, BC
Dec. 2006	1st International Workshop Semantic Information Integration on Knowledge Discovery (SIK 2006)
Jun. 2006	International Workshop on Data Integration and Semantic Web (DISWeb'06)
Jun. 2005	International Workshop on Data Integration and Semantic Web (DISWeb'05)

10. Service to the University

a) Memberships on committees

Type	Committee Name	Role	Dates	
			Start	End
Unit	Unit 5 Computer Science Instructor Search Committee	Member	Apr, 2016	May, 2016
Unit	Unit 5 Computer Science Industrial Contact	Member	Apr, 2016	
Faculty	IKBSAS Research Policy & Infrastructure Development Committee	Member	Jan, 2016	
Faculty	Curricular Innovation Award Committee	Member	Feb, 2016	Feb, 2016
University	UBC Okanagan Senate Academic and Building Resource Committee	Member	Sept, 2014	
University	UBC Okanagan Senate	Member	Sept, 2014	
Unit	Joint Search Committee for Digital Media Instructor	Member	Jan, 2015	May, 2015
Unit	Unit 5 Computer Science Instructor Search Committee	Member	Jan, 2014	Apr, 2014
Unit	Unit 5 External Head Search Committee (elected)	Member	Sept, 2013	Apr, 2014
Unit	Unit 5 Tenure and Promotion Committee	Member	Sept, 2013	Dec, 2013
Faculty	IKBSAS Dean's Renewal Committee (elected)	Member	Feb, 2013	Mar, 2013
Unit	Unit 5 Strategic Planning Committee	Member	Aug, 2012	Jan, 2013
Unit	Unit 5 Head Renewal Committee	Member	Jan, 2012	Feb, 2012
Unit	Coordinator for Sessional Hiring for Computer Science	Coordinator	Aug, 2011	Jan, 2012
Faculty	Computer Science Undergraduate Advisor	Coordinator	Jan, 2010	May, 2013
Faculty	IGS Graduate Advisor for Computer Science	Coordinator	Sept, 2010	Apr, 2012
University	UBC Okanagan Graduate Council	Member	Sept, 2010	Sept, 2012
University	Martha Piper Fund Review Committee	Member	Oct, 2009	Oct, 2009
Faculty	IKBSAS NSERC USRA Ranking Committee	Member	Mar, 2009	Dec, 2012
Faculty	Irving K. Barber School of Arts and Science Curriculum Committee	Member	Sep, 2006	Sep, 2013
Unit	Sessional Instructor Interview Committee – COSC 419D Fall 2008	Member	July, 2008	July, 2008
Unit	Advisory Committee to Dean to Select New Unit Head for Unit 4	Member	Jan, 2008	Feb, 2008

11. Service to the Community

a) Memberships on scholarly societies and other organizations

1999 -	Member of Association for Computing Machinery (ACM)
2002 – 2014	Member of Institute of Electrical and Electronics Engineers (IEEE)
2014 -	Senior Member of Institute of Electrical and Electronics Engineers (IEEE)

b) Memberships on scholarly and other committees

Organization	Committee Name	Role	Dates	
			Start	End
University of Iowa	Iowa Informatics Initiative Review Committee	Member	Sep, 2003	Apr, 2004
University of Iowa	Computer Science Undergraduate Curriculum Committee	Chair	Jan, 2003	Dec, 2004
University of Manitoba	Faculty Search Committee	Member	Sep, 1997	Apr, 1997

e) Editorships

Date	Role	Journal
2009-ongoing	Editorial Board	International Journal of Knowledge-Based Organizations (IJKBO)

f) Reviewer/Referee

(i) Journal Reviewing/Refereeing

Date	Journal	# Reviewed
2017	IEEE Transactions on Computer Intelligence and AI In Games	1
2016	IEEE Transactions on Computer Intelligence and AI In Games	1
2014	IEEE Transactions on Computer Intelligence and AI In Games	1
2013	Special issue of Springer's International Journal of Parallel Programming (IJPP)	5
2009	Information Sciences	1
2008	Data and Knowledge Engineering	1
2003	Electronics and Telecommunications Research Institute (ETRI) Journal	1
2003	International Journal of Neural Systems	1

(ii) Conference Reviewing/Refereeing

Date	Conference or Workshop	# Reviewed
2017	19 th International Conference on Enterprise Information Systems (ICEIS 2017)	3
2017	32 nd ACM Symposium of Applied Computing, Database Track (SAC 2017)	2
2016	18 th International Conference on Enterprise Information Systems (ICEIS 2016)	4
2016	31 st ACM Symposium of Applied Computing, Database Track (SAC 2016)	3
2016	29 th IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 2016)	3
2015	17 th International Conference on Enterprise Information Systems (ICEIS 2015)	5
2015	30 th ACM Symposium of Applied Computing, Database Track (SAC 2015)	3
2014	30 th IEEE International Conference on Data Engineering (ICDE 2014) – Ph.D. Symposium	3
2014	16 th International Conference on Enterprise Information Systems (ICEIS 2014)	7
2014	29 th ACM Symposium of Applied Computing, Database Track (SAC 2014)	3
2013	28 th ACM Symposium of Applied Computing, Database Track (SAC 2013)	3
2012	International Workshop on Security and Performance in Cloud Computing 2012	1
2012	27 th ACM Symposium of Applied Computing, Database Track (SAC 2012)	3
2011	International Workshop on Security and Performance in Cloud Computing 2011	2
2011	26 th ACM Symposium of Applied Computing, Database Track (SAC 2011)	2
2010	25 th ACM Symposium of Applied Computing, Database Track (SAC 2010)	3
2005	International Workshop on Data Integration and Semantic Web (DISWeb'05)	5
2005	High Performance Computing Symposium (HPC 2005)	1
2003	ACM Symposium on Applied Computing (SAC 2003)	1
1997	11 th International Symposium on High Performance Computing Systems (HPCS 1997)	5

(iii) Grant Reviewing

Date	Grant Agency and Program	# Reviewed
2011	NSERC Discovery Grant	1
2009	NSERC Discovery Grant	1

h) Interviews

(i) Broadcast

First Broadcast	Topic	Interviewer	Program	Network
June 22, 2012	City of Kelowna Irrigation Project	Chris Walker	CBC Radio One morning show	CBC
Oct, 2007	Computer Monitor Question		Good Question	CBC
Oct, 2006	Internet and Email Questions		Good Question	CBC

12. Awards and Distinctions

a) Awards for Teaching

Date	Name	Organization	Description
April 2017	Provost's Award for Teaching Excellence and Innovation	UBC Okanagan	The award acknowledges teaching innovation and excellence at UBC's Okanagan campus. The winner is an exemplary role model who has and will continue to have significant impact on the culture of teaching and learning on the Okanagan campus and beyond. Award consists of a \$3000 cash prize and recognition at Convocation. A faculty member may win the award only once during their career.
The UBC Okanagan Teaching Honour Roll recognizes professors who are among the top 10% in student evaluations of teaching effectiveness.			
April 2017	UBC Okanagan Teaching Honour Roll 2015-2016	UBC Okanagan	Only 15 faculty members selected in IKBSAS and 35 across the entire university.
April 2016	UBC Okanagan Teaching Honour Roll 2014-2015	UBC Okanagan	Only 13 faculty members selected in IKBSAS and 32 across the entire university.
April 2015	UBC Okanagan Teaching Honour Roll 2013-2014	UBC Okanagan	Only 18 faculty members selected in IKBSAS and 38 across the entire university.
April 2014	UBC Okanagan Teaching Honour Roll 2012-2013	UBC Okanagan	
April 2013	UBC Okanagan Teaching Honour Roll 2011-2012	UBC Okanagan	Only 17 faculty members selected in IKBSAS.
April 2012	UBC Okanagan Teaching Honour Roll 2010-2011	UBC Okanagan	
May 2011	UBC Okanagan Teaching Honour Roll 2009-2010	UBC Okanagan	Only 18 faculty members selected in IKBSAS.
May 2009	UBC Okanagan Teaching Honour Roll 2007-2008	UBC Okanagan	31 faculty members on campus were selected with 9 in IKBSAS.

b) Awards for Scholarship

Date	Name	Organization	Description
April 2017	Best Poster Award	ACM Symposium on Applied Computing (SAC)	The paper "Next Generation JDBC Database Drivers for Performance, Transparent Caching, Load Balancing, and Scale-out " won Best Poster at the SAC 2017 (out of 52 posters).
April 2016	Best Paper Award Information Systems	ACM Symposium on Applied Computing (SAC)	The paper "Improving SQL Query Performance on Embedded Devices using Pre-compilation" won Best Paper Award in Information Systems in SAC 2016.
February 2010	Best Student Paper	IEEE SAS Conference	The paper "Reducing Lawn Water Consumption using Sensor Nodes and an Adaptive Irrigation Controller" won Best Student Paper at the IEEE Sensors Applications Symposium. (out of 17 student papers)

d) Other Awards

Undergraduate and Graduate Student Awards

Date	Amount	Name	Presenter
1999-2001	\$38,200	NSERC PGS B (Ph.D.)	NSERC
1998	\$17,000	Gordon P. Osler Graduate Scholarship and University of Manitoba Fellowship	University of Manitoba - For outstanding merit in graduate studies and For the top recipient of the Gordon P. Osler Graduate Scholarship.
1996-2001	\$30,000	TRLabs Funding	TRLabs
1996-1998	\$31,200	NSERC PGS A (Master's)	NSERC
1996	\$5,000	Faculty of Science Research Grant	University of Manitoba
1995		Computing Research Association Top Undergraduate (Honorable Mention). Recognized as one of the top computer science undergraduates in North America. http://archive.cra.org/Activities/awards/undergrad/winners.95.html	Computing Research Association
1995	\$250	Elizabeth Luginbuhl Memorial Award	University of Manitoba - For highest standing in 3rd year science
1995	\$500	Benjamin Cohen Scholarship	University of Manitoba - For highest standing in science in any year
1995	\$6,500	NSERC Undergraduate Research Grant	NSERC
1994-1996		Dean's Honour Role	University of Manitoba
1994	\$500	Isbister Scholarship	University of Manitoba - For highest standing in science except graduating year
1994	\$250	Dr. Maxwell S. Rady Scholarship	University of Manitoba - For highest standing in 2nd year science
1994	\$6,500	NSERC Undergraduate Research Grant	NSERC
1993-1995	\$10,000	Canada Scholarship	Government of Canada - A four year national scholarship of the Canadian government given to students entering university in a science-related field.
1993	\$1000	Guertin Centennial Entrance Scholarship	University of Manitoba High-school entrance scholarship
1993	50% off first year tuition	Placed 1st in Manitoba in Canadian Association of Physicists (CAP) contest	
1993		Placed 2nd in Canada in Chem13 contest (Grade 12 chemistry contest)	

Publications & Other Scholarly Output

Policy on Authorship

The accepted practice for database publications in the area of computer science is that the primary author is listed first, and the order of authors roughly reflects their contribution. One notable (personal) exception is that graduate students are almost always listed first regardless of their contribution to research and/or writing as long as they contributed to the project. This increases the recognition for the students. The supervisor is then listed as the last author of the paper.

Publication in refereed conferences is a prestigious publication venue in computer science in addition to publication in journals. The top international conferences are considered as superior publication venues for cutting-edge research, and the acceptance rates for such conferences are highly competitive. For journals, the latest impact factors available to the author are provided.

Refereed Publications

Note: Publications of major significance are preceded with a “”. Acceptance rates are given when available. Supervised undergraduate and graduate students co-authors are in italics.*

Journal Articles

- 1) **Graeme Douglas* and Ramon Lawrence. "Efficient SQL Querying on Embedded Devices using Pre-Compilation", *Applied Computing Review*, June 2016, Volume 16 Number 2, pages 42-47.
- 2) *Tyler Cossentine* and Ramon Lawrence. "Efficient External Sorting on Flash Memory Embedded Devices", *International Journal of Database Management Systems (IJDMS)*, February 2013, Volume 5 Number 1, pages 1-20. URL: <http://airccse.org/journal/ijdms/papers/5113ijdms01.pdf>.
- 3) *Ramon Lawrence and Vadim Bultiko. "Database-Driven Real-time Heuristic Search in Video-game Pathfinding", *IEEE Transactions on Computational Intelligence and AI in Games*, September 2013 Volume 5 Number 3 pages 227-241.
- 4) *Scott Fazackerley* and Ramon Lawrence. "Automatic In-Situ Determination of Field Capacity using Soil Moisture Sensors", *Journal of Irrigation and Drainage*, Volume 61:3, 416-424, 2012 (2010 IF: 1.108)
- 5) Vadim Bultiko, Yngvi Björnsson and Ramon Lawrence. "Case-Based Subgoaling in Real-Time Heuristic Search for Video Game Pathfinding", *Journal of Artificial Intelligence Research*. Volume 39 (September 2010), pages 269-300. (2009 IF: 3.036)
- 6) **Bryce Cutt* and Ramon Lawrence. "Using Intrinsic Data Skew to Improve Hash Join Performance", *Information Systems* 34:6 (September 2009): 493-510 (2010 IF: 1.966)
- 7) *Ramon Lawrence. "Using Slice Join for Efficient Evaluation of Multi-Way Joins". *Data and Knowledge Engineering*. 67:1 (October 2008): 118-139 (2010 IF: 1.745).
- 8) Ramon Lawrence, Ralph P. Russo and Nariankadu D. Shyamalkumar. "The Effect of Reading Policy on Early Join Result Production". *Information Sciences*. 177.19 (October 2007): 3939-3956. (2008 IF: 3.095)
- 9) Nariankadu D. Shyamalkumar, Ralph P. Russo and Ramon Lawrence. "Optimal Policies to Obtain the Most Join Results". *Journal of Theoretical Probability*. 20:2 (June 2007): 237-256. (2008 IF: 0.602)
- 10) Anton Kruger, Ramon Lawrence and *Eduard C. Dragut*. "Building a Terabyte NEXRAD Radar Database for Hydrometeorology Research". *Computers & Geosciences*. 32.2 (2006): 247 - 258. (2008 IF: 1.188)
- 11) *Ramon Lawrence. "Teaching Data Structures using Competitive Games". *IEEE Transactions on Education*. 47.4 (November 2004): 459 - 466. (2008 IF: 0.644)
- 12) Ramon Lawrence. "The Space Efficiency of XML". *Information and Software Technology*. 46.11 (September 2004): 753 - 759. (2008 IF: 1.200)

Book Chapters

- 13) Michael Henderson and Ramon Lawrence. "An Evaluation of Multi-Way Joins for Relational Database Systems". *Lecture Notes in Business Information Processing 190 - Enterprise Information Systems*. Springer. Invited and revised papers from ICEIS 2013. 37 – 50. ISBN 978-3-319-09491-5. July 2015.
- 14) Vadim Bulitko, Yngvi Björnsson, Nathan R. Sturtevant, Ramon Lawrence. "Real-time Heuristic Search for Pathfinding in Video Games", *Artificial Intelligence for Computer Games*. Springer. 1 – 30. ISBN 978-1441972569. January 2011.
- 15) Ramon Lawrence. "Motivating Students Using Competitive Programming", *Guide to Competitive Learning*, Springer. 157 – 172. ISBN 978-84-937580-3-5. April 2010.
- 16) Ramon Lawrence and Ken Barker. "Integrating Data Sources using a Standardized Global Dictionary (Chapter 16)". *New Trends in Knowledge Discovery for Business Information Systems*. 2000. 153 - 172. Presented at 4th International Conference on Business Information Systems (BIS'2000) Poznan, Poland, April 12-13th, 2000. The conference publication was refereed, and the conference paper was extended into an invited, refereed book chapter.

Conference Papers (Refereed)

- 1) Wade Penson, Eric Huang, Dana Klamut, Eliana Wardle, Graeme Douglas, Scott Fazackerley, and Ramon Lawrence. "Continuous Integration Platform for Arduino Embedded Software", IEEE Canadian Conference on Electrical and Computer Engineering 2017 (CCECE 2017), to appear.
- 2) Ramon Lawrence, Erik Brandsberg, and Roland Lee. "Next Generation JDBC Database Drivers for Performance, Transparent Caching, Load Balancing, and Scale-out", 32nd Annual ACM Symposium on Applied Computing (SAC'17), pages 915-918. **Best Poster Award out of 52 posters at conference.**
- 3) Kenny Raharjo and Ramon Lawrence. "Using Multi-Arm Bandits to Optimize Game Play Metrics and Effective Game Design", ICCG 2016: 18th International Conference on Computers and Games, New York, USA, pages 1021-1024.
- 4) Wade Penson, Scott Fazackerley, Ramon Lawrence. "TEFS: A Flash File System for Use on Memory Constrained Devices", IEEE Canadian Conference on Electrical and Computer Engineering 2016 (CCECE 2016).
- 5) Scott Fazackerley, Wade Penson, Ramon Lawrence. "Write Improvement Strategies for Serial NOR Dataflash Memory", IEEE Canadian Conference on Electrical and Computer Engineering 2016 (CCECE 2016).
- 6) *Graeme Douglas and Ramon Lawrence. "Improving SQL Query Performance on Embedded Devices using Pre-Compilation", 31st Annual ACM Symposium on Applied Computing (SAC'16), pages 961-964. **Best Paper Award.**
- 7) *Scott Fazackerley, Eric Huang, Graeme Douglas, Raffi Kudlac, Ramon Lawrence. "Key-Value Store Implementations for Arduino Microcontrollers", IEEE Canadian Conference on Electrical and Computer Engineering 2015 (CCECE 2015), pages 158-164.
- 8) Giuseppe Burtini, Jason Loeppky and Ramon Lawrence. "Improving Online Marketing Experiments with Drifting Multi-Armed Bandits", 17th International Conference on Enterprise Information Systems (ICEIS 2015), pages 630-636.
- 9) Ramon Lawrence. "Integration and Virtualization of Relational SQL and NoSQL Systems including MySQL and MongoDB", 2014 International Conference on Computational Science and Computational Intelligence (CSCI 2014), Las Vegas, NV, USA.

- 10) **Graeme Douglas* and Ramon Lawrence. "LittleD: A SQL Database for Sensor Nodes and Embedded Applications", 29th Annual ACM Symposium on Applied Computing (SAC'14), pages 827-832. [23% Acceptance Rate]
- 11) *Michael Henderson* and Ramon Lawrence. "Are Multi-way Joins Actually Useful?", 15th International Conference on Enterprise Information Systems (ICEIS 2013), Angers, France, pages 13-22. [8% Full Paper Acceptance Rate]
- 12) *Giuseppe Burtini*, *Scott Fazackerley*, and Ramon Lawrence. "Time Series Compression for Adaptive Chart Generation", IEEE Canadian Conference on Electrical and Computer Engineering 2013 (CCECE 2013), pages 1-6.
- 13) *William Lee* and Ramon Lawrence. "Fast Grid-based Path Finding for Video Games", 26th Annual Canadian Conference on Artificial Intelligence (AI'13), pages 100-111. [27% Acceptance Rate]
- 14) *William Lee* and Ramon Lawrence. "Trading Space for Time in Grid-based Path Finding", AAAI-13 Student Abstract and Poster Program, pages 1625-1626.
- 15) *Giuseppe Burtini*, *Scott Fazackerley*, and Ramon Lawrence. "Reducing Data Transfer for Charts on Adaptive Web Sites", 28th Annual ACM Symposium on Applied Computing (SAC'13), pages 865-867.
- 16) Scott Fazackerley, Andrew Campbell, Ryan Trenholm, and Ramon Lawrence. "A Holistic Framework for Water Sustainability and Education in Municipal Green Spaces". IEEE Canadian Conference on Electrical and Computer Engineering 2012 (CCECE'12), May 2012. Montreal, Canada, pages 1-6.
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- 19) *Alyosha Pushak*, *Deb Carter*, *Teresa Wrzesniewski* and Ramon Lawrence. "Experiences using an Automated Testing and Learning System", Computers and Advanced Technology in Education (CATE 2011), pages 7-11.
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- 22) **Tyler Cossentine* and Ramon Lawrence. "Fast Sorting on Flash Memory Sensor Nodes", International Database Engineering and Applications Symposium (IDEAS'10), 105-113. Montreal, Canada. [17% Acceptance Rate]
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- 24) *Scott Fazackerley*, Alan Paeth and Ramon Lawrence. "Cluster Head Selection using RF Signal Strength". *IEEE Canadian Conference on Electrical and Computer Engineering 2009 (CCECE'09)*, May 2009. St. John's, NF.
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- 27) Bryce Cutt and Ramon Lawrence. "Improving Join Performance for Skewed Databases". *IEEE Canadian Conference on Electrical and Computer Engineering 2008 (CCECE'08)*. May 2008. Niagara Falls, ON. 387-391.
- 28) Witold F. Krajewski, Anton Kruger, Ramon Lawrence, James A. Smith, A. Allen Bradley, Matthias Steiner, Mary Lynn Baeck, Mohan K. Ramamurthy, Jeffrey Weber, Stephen A. DelGreco, Bong-Chul Seo, Piotr Domaszczynski, Charles Gunyon, Radoslaw Goska. "Towards Better Utilization of NEXRAD Data in Hydrology: an Overview of Hydro-NEXRAD". *World Environmental and Water Resources Congress 2007: Restoring Our Natural Habitat*. Volume 243, Number 40927, pages 288-296.
- 29) Uchang Park and Ramon Lawrence. "A Database Integration System Based on Global View Generation". *9th International Conference on Enterprise Information Systems*. Jun, 2007. 453-456.
- 30) Eduard C. Dragut and Ramon Lawrence. "Reducing the Cost of Validating Mapping Compositions by Exploiting Semantic Relationships". *On the Move to Meaningful Internet Systems 2006: CoopIS, DOA, GADA, and ODBASE (LNCS 4275)*. Montpellier, France. 882 - 890. [25% acceptance rate]
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- 32) Ramon Lawrence. "A Cost-Based Approach for Converting Relational Schemas to XML". *International Advanced Database Conference (IADC)*. San Diego, CA. Jun, 2005. [46% acceptance rate]
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- 40) Ken Barker and Ramon Lawrence. "Flexible Semantic B2B Integration Using XML Specifications". *Proceedings of the SCI 2002 - The 6th World Multi-Conference on Systemics, Cybernetics, and Informatics*. Orlando, Florida, United States. Jul, 2002.

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- 42) Alina Bejan and Ramon Lawrence. "Peer-to-Peer Cooperative Driving". *Proceedings of the Seventeenth International Symposium on Computer and Information Sciences (ISCIS XVII)*. Orlando, Florida, United States. Oct, 2002. 259 - 263. CRC Press. ISBN 0-8493-1490-9.
- 43) *Ramon Lawrence and Ken Barker. "Using Unity to Semi-Automatically Integrate Relational Schema". *Demonstration at the 18th International Conference on Data Engineering (ICDE)*. San Jose, California, United States. Feb, 2002. 329 - 330. IEEE Computer Society.
- 44) *Ramon Lawrence and Ken Barker. "Integrating Relational Database Schemas using a Standardized Dictionary". *16th ACM Symposium on Applied Computing (SAC'01)*. Las Vegas, NV. Mar, 2001. 225-230.
- 45) Ramon Lawrence and Ken Barker. "Querying Relational Databases without Explicit Joins". *ER 2001 Workshops, HUMACS, DASWIS, ECOMO, and DAMA (Lecture Notes in Computer Science 2465)*. Yokohama, Kanagawa, Japan. Nov, 2001. 278 - 291. [28% acceptance rate]
- 46) Ramon Lawrence and Ken Barker. "Multidatabase Querying by Context". *Proceedings of the DATASEM 2000 – Current Trends in Database Systems*. Brno, Czech Republic. Oct, 2000. 127 - 136.
- 47) Ramon Lawrence, Ken Barker and Aruna Adil. "Simulating MDBS Transaction Management Protocols". *Proceedings of the Computer Applications in Industry and Engineering (CAINE-98) Conference*. Las Vegas, Nevada, United States. Nov, 1998. 93 - 97.

Other

Technical Reports

Note: Technical reports are non-refereed documents that are made publically available by the institution.

- Ramon Lawrence. *A Cost-Based Approach for Converting Relational Schemas to XML (TR-05-02)*. University of Iowa. Mar, 2005. 23 pages.
- Terrence Mason, Lixin Wang and Ramon Lawrence. *AutoJoin: Providing Freedom from Specifying Joins (TR-04-03)*. University of Iowa. Mar, 2004. 14 pages.
- Alina Bejan and Ramon Lawrence. *Peer-to-Peer Cooperative Driving (TR-02-04)*. University of Iowa. Jun, 2002. 14 pages.
- Ramon Lawrence and Ken Barker. *Unity - A Database Integration Tool*. TRILabs. Dec, 2000. 5 pages.

Posters and Presentations

Note: These posters and papers are "lightly" refereed. Acceptance is based on submitted abstracts to the conference committee. Presentations at the American Geophysical Union (AGU) meetings are very highly regarded in the geophysics, atmospheric and hydrological research communities. These presentations are on the NEXRAD data archive project (NSF ITR funded).

- A. Kruger, W. F. Krajewski, A. A. Bradley, J. A. Smith, M. L. Baeck, M. Steiner, R. Lawrence, M. K. Ramamurthy, J. Weber, S. A. Delgreco, P. Domaszczynski, B. Seo. Techniques for Efficiently Managing Large Geosciences Data Sets. *Eos Trans. AGU, 88(52)*, Fall Meet. Suppl., IN23A-0951, December 2007.
- A. Kruger, W. F. Krajewski, A. A. Bradley, J. A. Smith, M. L. Baeck, M. Steiner, R. Lawrence, M. K. Ramamurthy, J. Weber, S. A. Delgreco, P. Domaszczynski, B. Seo. Techniques for Efficiently Managing Large Geosciences Data Sets. *Eos Trans. AGU, 88(52)*, Fall Meet. Suppl., IN23A-0951, 2007. (Poster)
- A. Kruger, A. A. Bradley, W. F. Krajewski, R. Lawrence, J. A. Smith, M. L. Baeck, M. Steiner, M. Ramamurthy, J. Weber, S. A. Del Greco, F. M. V. Murthy, and D. Dhutia. NEXRAD-ITR: Developing a

framework for use of NEXRAD data in hydrology and hydrometeorology. *22nd International Conference on Interactive Information Processing Systems (IIPS), Session: Radar IIPS and Applications Part I*, Paper 9.3 and Poster P2.10, The 86th AMS Annual Meeting, Atlanta, Georgia, January 26-February 2, 2006.

- A. Kruger, W. F. Krajewski, A. A. Bradley, J. A. Smith, M. Steiner, M. L. Baeck, R. Lawrence, M. K. Ramamurthy, J. Weber, S. L. DelGreco, P. Domaszczynski, C. Gunyon, B. Seo. Towards Better Utilization of NEXRAD Data in Hydrology – an Update. *EOS Trans. AGU, 87(52)*, Fall Meet. Suppl., Abstract IN13E-08, 2006.
- A. Kruger, A. A. Bradley, W. F. Krajewski, R. Lawrence, J. A. Smith, M. L. Baeck, M. Steiner, M. Ramamurthy, J. Weber, S. A. Del Greco, F. M. V. Murthy, and D. Dhutia. NEXRAD-ITR: Developing a framework for use of NEXRAD data in hydrology and hydrometeorology. *22nd International Conference on Interactive Information Processing Systems (IIPS)*, Poster P2.10, The 86th AMS Annual Meeting, Atlanta, Georgia, January 26–February 2, 2006.