

John Champaign

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EDUCATION:

Doctor of Philosophy, Computer Science University of Waterloo 2008-May 2012

- Thesis: “Peer-Based Educational Tutoring Systems: A Corpus-Oriented Approach”
- Supervised by Robin Cohen
- Member of the Artificial Intelligence group
- Research focused on User Modeling, Human-Computer Interaction and Intelligent Tutoring Systems
- Courses on Human-Computer Interaction (CS 889), Preference Elicitation (CS 886), Medical Image Processing (CS 870), and Bayesian Data Analysis (CS 886)
- GPA of 87.25%

Masters of Mathematics, Computer Science University of Waterloo 2002-2004

- Thesis: “An Empirical Study of Software Packaging Stability”
- Supervised by Andrew Malton
- Member of the Software Architecture Group (SWAG)
- Courses in Artificial Intelligence (CS 686), Component-Based Design (CS 854), Intelligent Computer Interfaces (CS 785), and Software Evolution (CS 846)
- GPA of 88.75%

Bachelor’s of Science in Computer Science Queen’s University 1995-2000

- Honours degree
- Undergraduate thesis supervised by David Lamb

ACADEMIC EMPLOYMENT:

ASSISTANT PROFESSOR Augustana College August 2018-March 2019

- Undergraduate teaching
- Continuing research

ASSISTANT PROFESSOR University of Illinois at Springfield August 2014-August 2015

- Graduate and undergraduate teaching
- Supervising student research
- Continuing research

POST-DOCTORAL FELLOW Massachusetts Institute of Technology May 2013-April 2014

- Employed and developed the RELATE group’s expertise in educational data mining
- Investigated how student actions influence their learning (to improve resources)
- Analyzed data from both physics and electrical engineering courses to study both short- and long-term learning
- Mined the data to provide point of need help to future students

- LECTURER** **University of Waterloo** **August 2012-April 2013**
- Teaching faculty member, with a teaching load of 5 courses per year
 - Academic advisor, assisted students with course selection, academic difficulties and provided a consultation period for 1.5 hours each week
 - Member of the undergraduate recruitment committee

INDUSTRIAL WORK EXPERIENCE:

- Founder** **John Champaign Software** **Toronto, ON** **2001-2012**
- Started my own software development company, creating educational software for autistic children
 - The Java program, deployed in Windows, Linux, and Mac OS environments, communicates with a server, uses a Swing-based GUI and is highly configurable to the needs of different students
 - Operate company independently, managing business challenges such as sales and marketing, in addition to developing the technology
 - Consult and work closely with two licensed clinical psychologists to develop appropriate educational software for autistic children
 - Marketed software to teachers, school districts, psychologists, educational therapists, and psychology clinics
 - Presented concepts and software to psychologists at the Ann Martin Center, who were excited by the software and the innovation leading to it

- Contract Developer** **Telus** **Toronto, ON** **March -August 2007**
- Contracted as a Java developer, but due to client need, the focus shifted to contributing to a massive data clean-up project
 - Data clean-up involved scripting database queries, producing and verifying clean-up scripts, collaborating with different parts of the Telus organization (billing, engineering, etc.) and reconciling their different views of the data
 - Worked with MyEclipse, Weblogic and Oracle

- Contract Developer** **Paton Publishing** **Toronto, ON** **July – Sept. 2006**
- Completed a short-term contract, converting the existing magazine website (<http://www.popmagazine.com>) to an EZ Publish based CMS
 - As the sole technical employee, responsibilities included every element of the deployment, recommending and deploying software, building the site, helping Paton negotiate with vendors and their hosting company, and instructing non-technical staff on use of the final product
 - After an extensive comparison of available Mailing–List Managers (MLM), recommended and integrated a MLM (<http://www.myemma.com>), which took into consideration Paton’s unique needs

- Contract Developer** **Arbor Networks** **Toronto, ON** **June – July, 2006**
- Completed a short-term contract, implementing a Django-based solution on time and on budget. (Due to a NDA, specific details about the project can not be released)
 - Company was extremely satisfied with the final product

JavaScript Integration **Alan Majer (Grak.com)** **Toronto, ON** **March – May, 2006**

- A short-term contract that integrated multiple JavaScript code bases into a single system. Repaired resulting bugs
- Extended system with new features for a start-up company

Web Programmer **St. Joseph Media** **Toronto, ON** **Feb. – March, 2006**

- A 6-week contract that implemented the backend of a Django-based Content Management System (CMS) for <http://www.fashion18.com>
- Independently learned and implemented site using Django and Python
- Helped other employees solve Django and Python problems they were experiencing

Software Developer **DesignMind** **San Francisco, CA** **2000-2001**

- Developed Java development skills and customer interaction skills
- Designed reports using Crystal Reports and Oracle
- Expanded their proprietary framework using J2EE, JSP, Java Beans, JDBC, and servlets

Software Developer **Moonlight Systems** **San Francisco, CA** **2000**

- Programming, design, and software analysis
- Developed Linux applications in Perl and MySQL
- Enhanced server management and mail transfer agent (MTA) projects

Software Programming Intern **Nortel Networks** **Ottawa, ON** **1999**

- Designed and implemented new barcode inventory updating system
- Supported software testing and technical support departments

OTHER WORK EXPERIENCE:

Personal Investment Management **Self-Employment** **Illinois** **2015-Present**

- Managed personal investments, based on Modern Portfolio Theory
- Blogged on various topics related to investment as “Mr. Cheap” at <http://www.moneysmartsblog.com/>

Real Estate Management **Self-Employment** **Illinois** **2015-Present**

- Purchased, renovated and managed 6 residential and commercial properties
- Developed game theoretic approach to purchasing properties with a reverse auction mechanism
- 11 doors total

PUBLICATIONS:

- Elham S. Khorasani, Zhenge Zhao, **John Champaign**, “A Markov Chain Collaborative Filtering Model for Course Enrollment Recommendations”, *IEEE International Conference on Big Data*, Washington, DC December 2016 (accepted)
- John Laubersheimer, Dorothy Ryan, **John Champaign**, “InfoSkills2Go: Using Badges and Gamification to Teach Information Literacy Skills and Concepts to College-Bound High School Students”, *Journal of Library Administration* 56 (8), 2016 (15 pages)
- **John Champaign**, Robin Cohen, Disney Y. Lam, “Empowering Patients and Caregivers to Manage Healthcare Via Streamlined Presentation of Web Objects Selected by Modeling Learning Benefits Obtained by Similar Peers” *ACM Transactions on Intelligent Systems and Technology (TIST)* 6 (4), 2015 (54 pages)
- **John Champaign**, Robin Cohen, Noel Sardana, John A. Doucette, “A framework to restrict viewing of peer commentary on Web objects based on trust modeling” *Social Network Analysis and Mining* 4 (1), 1-15 2014 (15 pages)
- Kimberly F. Colvin, **John Champaign**, Alwina Liu, Colin Fredericks, David E. Pritchard, “Comparing Learning in a MOOC and a Blended, On-Campus Course”, *Educational Data Mining*, London, UK, July 2014 (2 pages)
- Kimberly F. Colvin, **John Champaign**, Alwina Liu, Qian Zhou, Colin Fredericks, David E. Pritchard, “Learning in an introductory physics MOOC: All cohorts learn equally, including an on-campus class”, *The International Review of Research in Open and Distributed Learning* 15 (4), 2014 (11 pages)
- **John Champaign**, Kimberly F. Colvin, Alwina Liu, Colin Fredericks, Daniel Seaton and David E. Pritchard, “Correlating Skill and Improvement in 2 MOOCs with a Student’s Time on Tasks”, *In Proceedings of Learning at Scale*, Atlanta, Georgia, USA, March 2014 (10 pages)
- **John Champaign** and Robin Cohen, “Ecological Content Sequencing: From Simulated Students to An Effective User Study”, *International Journal of Learning Technology Special Issue Advances in Intelligent Tutoring Systems: Contributions from the FLAIRS ITS track 8* (4) 2013 (25 pages)
- Noel Sardana, Robin Cohen, Jie Zhang and **John Champaign**, Credibility-Based Trust in Social Networks, *In Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS) Workshop on Trust in Agent Societies (TRUST)*, 2013 (12 pages)
- **John Champaign**, Robin Cohen, “Leveraging a social network of peers for NetMedicine: personalizing the selection of web objects for improved health education”, *In Proceedings of 1st International Workshop on Artificial Intelligence and NetMedicine workshop at European Conference on Artificial Intelligence (ECAI)*, Montpellier, France, August 2012 (10 pages)

- **John Champaign**, Robin Cohen, “Learning from a network of peers via peer-driven adjustment of a corpus”, *In Proceedings of SASWeb 2012: Semantic and Adaptive Social Web workshop at User Modeling, Adaptation and Personalization (UMAP)*, Montreal, Canada, July 2012 (12 pages)
- **John Champaign**, Robin Cohen, “Selective presentation of peer commentary on Web objects through a modeling of user similarity and reputability: reducing information overload in social networks”, *In Proceedings of SRS 2012: Social Recommender Systems workshop at User Modeling, Adaptation and Personalization (UMAP)*, Montreal, Canada, July 2012 (8 pages)
- **John Champaign**, Robin Cohen, “Modeling trustworthiness of peer advice in a framework for presenting Web objects that supports peer commentary”, *In Proceedings of TRUM 2012: Trust, Reputation and User Modeling workshop at User Modeling, Adaptation and Personalization (UMAP)*, Montreal, Canada, July 2012 (12 pages)
- **John Champaign**, Robin Cohen, “Personalized presentation of multimedia objects for home healthcare environments: a peer-based intelligent tutoring approach”, *In Proceedings of TVM2P 2012: TV and Multimedia Personalization workshop at User Modeling, Adaptation and Personalization (UMAP)*, Montreal, Canada, July 2012 (12 pages)
- **John Champaign**, Robin Cohen, Jie Zhang, "The Validation of an Annotations Approach to Peer Tutoring Through Simulation Incorporating the Modeling of Reputation" *In Proceedings of International Conference on Computers in Education (ICCE)*, Chiang Mai, Thailand, November 2011 (5 pages)
- **John Champaign**, Jie Zhang, and Robin Cohen, "Coping with Poor Advice from Peers in Peer-Based Intelligent Tutoring: The Case of Avoiding Bad Annotations of Learning Objects", *In Proceedings of User Modeling, Adaptation and Personalization (UMAP)*, Girona, Spain, July 2011 (12 pages)
- **John Champaign** and Robin Cohen, " Exploring the Effects of Errors in Assessment and Time Requirements of Learning Objects in a Peer-Based Intelligent Tutoring System (Intelligent Tutoring Track)", *In Proceedings of FLAIRS Conference*, Palm Beech, Florida, May, 2011 (6 pages)
- Robin Cohen and **John Champaign**, “Towards peer-based learning to support medical assistance in homecare settings”, *Learning Technology Newsletter* 12(3), June, 2010
- **John Champaign** and Robin Cohen, “Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach”, *In Proceedings of Intelligent Tutoring Systems (ITS) (Young Researchers Track)*, Pittsburgh, Pennsylvania, June, 2010 (3 pages)
- **John Champaign** and Robin Cohen, “An Annotations Approach to Peer Tutoring”, *In Proceedings of Educational Data Mining (EDM)*, Pittsburgh, Pennsylvania, June, 2010 (10 pages)
- **John Champaign** and Robin Cohen, “A Distillation Approach to Refining Learning Objects”, *In Proceedings of Educational Data Mining (EDM)*, Pittsburgh, Pennsylvania, June, 2010 (2 pages)

- **John Champaign**, “Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach”, *In Proceedings of Canadian Conference on AI (AI)*, Ottawa, Ontario, May, 2010 (4 pages) (**One of only 6 students chosen for full presentation at the Graduate Symposium**)
- **John Champaign** and Robin Cohen, “A Model for Content Sequencing in Intelligent Tutoring Systems Based on the Ecological Approach and Its Validation Through Simulated Students”, *In Proceedings of FLAIRS Conference (Intelligent Tutoring Track)*, Daytona Beech, Florida, May, 2010 (6 pages)
- **John Champaign** and Robin Cohen, “A Multiagent, Ecological Approach to Content Sequencing”, *In Proceedings of Multi-Agent Systems for Education and Interactive Entertainment (MASEIE) workshop at Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, Toronto, Ontario, May, 2010 (6 pages)
- **John Champaign**, Andrew Malton and Xinyi Dong, “Stability and Volatility in the Linux Kernel”, *In Proceedings of IWPSE-03 International Workshop on Principles of Software Evolution*, Helsinki, Finland, June, 2003 (10 pages)

PRESENTATIONS:

- Invited talk on thesis work (MIT)
- Invited talk on thesis work (Alleyoop)
- The Intelligent Piece of Paper (CS4U Day, Waterloo)
- PhD Seminar “Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach” April 2012 (Waterloo)
- Invited talk: "Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach". University of Ontario Institute of Technology, Department of Education
- Learning from a network of peers via peer-driven adjustment of a corpus (*SASWeb at UMAP 2012*)
- Selective presentation of peer commentary on Web objects through a modeling of user similarity and reputability: reducing information overload in social networks (*SRS at UMAP 2012*)
- Modeling trustworthiness of peer advice in a framework for presenting Web objects that supports peer commentary (*TRUM at UMAP 2012*)
- Personalized presentation of multimedia objects for home healthcare environments: a peer-based intelligent tutoring approach (*TVM2P at UMAP 2012*)
- Exploring the Effects of Errors in Assessment and Time Requirements of Learning Objects in a Peer-Based Intelligent Tutoring System (*FLAIRS 2011*)
- PhD Seminar “Learning from a network of peers via peer-driven adjustment of a corpus” March 2011 (Waterloo)
- Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach (*ITS 2010*)
- An Annotations Approach to Peer Tutoring (*EDM 2010*)
- A Distillation Approach to Refining Learning Objects (*EDM 2010*)
- Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach (*CAI 2010*)
- A Model for Content Sequencing in Intelligent Tutoring Systems Based on the Ecological Approach and Its Validation Through Simulated Students (*FLAIRS 2010*)
- A Multiagent, Ecological Approach to Content Sequencing (*AAMAS 2010*)
- PhD Seminar “Peer-Based Intelligent Tutoring Systems: A Corpus-Oriented Approach” July 2010 (Waterloo)

- Presentations for NSERC Strategic Research Network hSITE (Healthcare Support through Information Technology Enhancements):
September 2009 (Toronto), June 2010 (Montreal) (poster)
- Presented results for feedback during Masters work at Consortium for Software Engineering Research (CSER) at the University of Victoria (2003)
- Multiple lectures, based on Masters thesis, for two undergraduate classes at the University of Waterloo
- Stability and Volatility in the Linux Kernel (*IWPSE 2003*)
- **Various presentations in graduate level courses**

AWARDS AND HONOURS:

Name of Award	Value (CDN\$)	Location	Period held (yyyy/mm - yyyy/mm)
NSERC Postdoctoral Fellowship Program	40,000	Declined	Declined (2016)
NSERC Postdoctoral Fellowship Program	40,000	Declined	Declined (2015)
Distinguished Teaching Assistantship Award	500	University of Waterloo	2011/09
President's Graduate Scholarship	10,000	University of Waterloo	2011/05-2012/04
Ontario Graduate Scholarship	15,000	University of Waterloo	2011/05-2012/04
Amit & Meena Chakma Award for Exceptional Teaching by a Student	5,000	University of Waterloo	2011/03
Cheriton Scholarship	10,000	University of Waterloo	2010/09-2011/04
OGSST	15,000	University of Waterloo	2008/05-2009/04
OGSST	15,000	University of Waterloo	2009/05-2010/04

TEACHING EXPERIENCE:

Course	Date	Role	Description
“Introduction to Computer Science” (CSC-201)	Fall 2018, Winter 2019	Assistant Professor	-Weekly assignments and quizzes every class -2 midterms and a final exam -Taught 3 sections of 25 students
“Database Management” (CSC-310)	Winter 2019	Assistant Professor	-Taught 2 sections of 25 students -4 assignments -1 midterm and a final exam

Course	Date	Role	Description
“Introduction to Database Systems” (CSC 472)	Fall 2014, Winter 2015	Assistant Professor	-Taught 4 sections of 25 students -Conducted office hours -Wrote all assignments (2), midterm and final -Revamped course curriculum -Committee member for hiring new faculty members and for creating a new Masters of Data Analytics program
“Computer Applications In Business: Databases” (CS 338)	Fall 2012, Winter 2013	Lecturer	-Taught 2 sections of 70 students -Conducted office hours -Managed a team of 3 Teaching Assistants -Wrote all assignments (4), midterm and final -Revamped course curriculum
“Designing Functional Programs” (CS 135)	Fall 2010, Winter 2013	Lecturer	-Taught course with 4 other instructors -Presented twice weekly to a class of 100 students -Conducted office hours twice weekly -Interacted with tutors and course coordinator -Wrote assignments and exams, oversaw marking -Dealt with student questions and complaints
English as a second language Teacher	2004	Teacher	-Taught English as a second language to students in Taiwan -Students ranged in age from grade 2 to high school

TEACHING ASSISTANT EXPERIENCE:

Course	Term	Role	Description
“Management Information Systems” (CS 330)	Spring 2011	Teaching Assistant	-Assisted with development of course website and presentation slides -Gave multiple talks, lead classroom discussion and demonstrating how to answer case study questions -Proctored and marked final exam -Monitored and responded to course e-mail account -received TA Award
“Social Implications of Computing” (CS 492)	Winter 2011	Teaching Assistant	-Assisted with development of course website -Moderated “role playing exercises” (mock debates) in one class per week -Marked essays, provided students with feedback and assisted with student evaluation

Course	Term	Role	Description
University of Waterloo Software Engineering program	Spring 2010	Marker	-Marked work reports for upper year undergraduate students, evaluating them based on their engineering approach to a work related topic and their ability to effectively communicate in a written report
“Social Implications of Computing” (CS 492)	Winter 2010	Teaching Assistant	-Assisted with development of course website -Moderated “role playing exercises” (mock debates) in one class per week -Lectured (open discussion) on piracy, open source software and copyright infringement -nominated for TA Award
“Introduction to Computer Science 1” (CS 115)	Winter 2010	Instructional Assistant	-Worked with first year students in a weekly lab environment to help them learn to program in Scheme -Assisted in proctoring and marking midterm and final exams
“Introduction to Computer Science 1” (CS 115)	Fall 2009	Instructional Assistant	-Worked with first year students in a weekly lab environment to help them learn to program in Scheme -Assisted in proctoring and marking midterm and final exams
Unix Consulting	Spring 2009	Consultant	-Helped students and faculty to use the computing resources and troubleshoot technical problems
“Social Implications of Computing” (CS 492)	Winter 2009	Teaching Assistant	-Assisted with development of course website -Moderated “role playing exercises” (mock debates) in one class per week
Unix Consulting	Fall 2008	Consultant	-Helped students and faculty to use the computing resources and troubleshoot technical problems
“Designing Functional Programs” (CS 135)	Spring 2008	Teaching Assistant	-Marked assignments and assisted in proctoring and marking final exam
University of Waterloo Software Engineering program	Spring 2003	Marker	-Marked work reports for upper year undergraduate students, evaluating them based on their engineering approach to a work related topic and their ability to effectively communicate in a written report

Course	Term	Role	Description
Unix Consulting	Spring 2003	Consultant	-Helped students and faculty to use the computing resources and troubleshoot technical problems
“Computer Architecture” (CS 450)	Winter 2003	Teaching Assistant	-Marked assignments and assisted in proctoring and marking final exam
Unix Consulting	Fall 2002	Consultant	-Helped students and faculty to use the computing resources and troubleshoot technical problems
Unix Consulting	Spring 2002	Consultant	-Helped students and faculty to use the computing resources and troubleshoot technical problems

PROFESSIONAL SERVICE:

- Developing a workshop on the use of simulations for ITS research with Gordon McCalla for AIED 2013 (June, 2013)
- Invited member of the FLAIRS 2013 program committee (May, 2012)
- Invited member of the FLAIRS 2012 program committee (May, 2011)
- Reviewer for UMUI special issue on Data Mining for Personalized Educational Systems (March, 2011)
- Reviewer for ERSAT-2011 (November, 2010)
- Invited member of the FLAIRS 2011 program committee (May, 2011)
- Reviewer for ICIS 2010 (May, 2010)
- Reviewer for AAI-2010 (February, 2010)
- Reviewer for UMAP-2009 (February, 2009)

VOLUNTEERING:

- Presented at CS4U, an annual outreach event held by the Cheriton School of Computer Science, designed to get high school student excited about studying computer science
- video available online at <https://www.youtube.com/watch?v=AYjvJkZ-JHg>
- Computer Science Graduate Student Association Treasurer (2009-2010)
- Panelist for Graduate Research Skills seminar course: I was chosen to speak by Chrysanne DiMarco to the incoming (2009) graduate students about what to expect as a graduate student within the department, made suggestions on how to be successful as a grad student and responded to questions.
- Volunteer at Ontario Universities Fair: I volunteered at the University of Waterloo's 2008 computer science booth and answered questions about studying at Waterloo for incoming students and parents.
- Volunteer at numerous open houses and graduate student orientations: Consisted of telling potential grad students what studying at the University of Waterloo is like and helping new students orient themselves on campus.