

# Jacob Machina

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N9G 1L2

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Email: [Jake@JakeMachina.com](mailto:Jake@JakeMachina.com)

- Experience**      2005–2009      Self Employed
- IT Consultant**
- ASP.NET developer for interactive web application
  - Produced electronic conference proceedings for OSSA conference 2007\_ <http://jakemachina.com/OSSA/start>
  - Small business web development and maintenance for:
    - <http://pamelagoldstein.com> for a local author and radio personality
    - <http://evenflowplumbingcorp.com> for a local plumbing corporation
- Summer/Fall 2009      University of Windsor
- Graduate Teaching Assistant**
- Responsible for grading of student work at the 1xx / 3xx level and for teaching/tutoring in labs at the 1xx level
- Summer 2008      University of Windsor
- Research Assistant**
- Winter 2008      University of Windsor
- Tutor / Teaching Assistant**
- General tutor for introductory computer science classes at 1xx / 2xx level
  - Teaching Assistant for Cyber Ethics (60-305)
- Education**      2009      University of Windsor
- Masters of Computer Science Candidate**
- Publications:
    - Angela Sodan, Jacob Machina, Arash Deshmeh, Kevin Macnaughton, Bryan Esbaugh, “**Parallelism via Multithreaded and Multicore CPUs**”, Computer, vol. 99, no. PrePrints, 2009, In Press
    - Jacob Machina, Angela Sodan, “**Predicting cache needs and cache sensitivity for applications in cloud computing on CMP servers with configurable caches**”, Parallel & Distributed Processing, 2009. IPDPS 2009. IEEE International Symposium on , May 2009
    - Arash Deshmeh, Jacob Machina, Angela Sodan, “**ADEPT Scalability Predictor in Support of Adaptive Resource Allocation**”, Parallel & Distributed Processing, 2010. IPDPS 2010. IEEE International Symposium on, April 2010
  - Recipient of “Excellence in Research” award from School of Computer Science
- 2002–2008      University of Windsor
- B.C.S. Honours Computer Science**
- Featured in student spotlight on School of Computer Science homepage
- Computer Science Council Undergrad Representative (2005 – 2008)**
- Represented student views in monthly council meetings and weekly committee meetings, with full voting rights

- Emcee of student meetings with Director of the School of Computer Science
- Elected by peers to sit on Search Committees for Dean of Science, Director of Computer Science and Associate Dean of Undergraduate Affairs

## Projects

- 2007 Advanced Topics in Artificial Intelligence  
 Implemented co-operative, predatory and aggressive behavior in the Raven game by Mat Buckland as detailed in *Programming Game AI by Example*. Also implemented a new weapon, steering behavior, and bot leveling. Built on existing C++ / LUA code base as a part of a small team. Project grade: A+ (93-100%)
- 2007 Distributed Computing  
 Designed and implemented a framework for generalized distributed computation tasks, exploiting JAVA's serialization. Implemented a voting system to check validity of results, with a credit allocation mechanism for work performed. Implemented demonstration prime-calculator using the distributed computation framework to demonstrate validity and ease of implementation. Project grade: 98%
- 2006 World Wide Web Information Systems  
 Designed and implemented an online question bank and test-generating website that allowed professors to collaborate on creating tests for a class. Project allowed multiple professors to pool questions for a single class and for any professor to use tests from that class. Project could automatically generate tests from the question bank, and allowed for a given test to have its questions re-ordered randomly to reduce cheating. Project generated a printable test and correction sheet for every version of every test. Implemented in JSP2.0 on Apache Tomcat using an Oracle SQL server. Project grade: 97%

## Volunteer Work

- 2007-2008 University of Windsor  
**Windsor Charity Ball President / Signatory**
- Oversaw all financial matters
  - Provided direction and oversight for President and executive committee
  - Created tickets / promotional materials for event
  - Created and managed event website <http://windsorcharityball.com/2007>
- 2006–2008 University of Windsor  
**Computer Science Society President**
- Organized guest lectures and seminars for Computer Science students
  - Recruited and oversaw executive team
- 2006–2007 Parkinson Society Canada  
**Cut-A-Thon Windsor Fundraising Co-Chair**
- Advertised event and recruited customers, assisted in organizing the event

## References

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| Dr. Subir     | University of Windsor | <a href="mailto:subir@uwindsor.ca">subir@uwindsor.ca</a>   |
| Dr. R. Kent   | University of Windsor | <a href="mailto:rkent@uwindsor.ca">rkent@uwindsor.ca</a>   |
| Dr. P. Boulos | University of Windsor | <a href="mailto:boulos@uwindsor.ca">boulos@uwindsor.ca</a> |