

# Eric Brochu

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citizenship: Canadian

*A Machine Learning and Artificial Intelligence researcher and software developer, I am always looking for projects that allow me to exercise my technical and creative abilities. I have a strong academic research background and extensive industry experience, with a focus on interactive tools for media creation and analysis. I have won awards for my post-graduate work, and I have worked on highly successful iPhone and iPad applications.*

## Education

- 2011 **PhD, Computer Science. University of British Columbia. Vancouver, Canada.**  
Nando de Freitas, supervisor.  
thesis: *Interactive Bayesian Optimization: Learning User Preferences for Graphics and Animation*  
A+ coursework average (UBC theses are not graded).
- 2004 **MSc, Computer Science. University of British Columbia.**  
Nando de Freitas, supervisor.  
thesis: *MILQ (Music Interpreted as Lexical Qualifiers)*  
A+ coursework average.
- 1998 **BSc, Computer Science. University of Regina. Regina, Canada.**  
Graduated with Distinction.
- 1997 **BA, English (w/minor in Film Studies). University of Regina.**  
Graduated with Distinction.

## Employment

- sept 2011 - present **Researcher & Developer. Pocket Pixels. Vancouver, Canada.**  
Working on multiple photo editing apps for iPhone and iPod, including Juxtaposer and Color Splash. The first major release I worked on, Color Splash for iPad v1.8, became the #1 iPad Photography app in the US in 3/2012 and in Canada in 4/2012.
- 2006 - 2009 **Senior Researcher. Worio (later renamed Zite). Vancouver.**  
Conducted Machine Learning research on search and recommender technology for Zite news recommender apps and web service (acquired by CNN in 2011).  
*From 2006-07 worked part-time while PhD student, in 2008-09 took an 18-month academic leave to work on project full-time.*
- 2002 - 2006, 2009 - 2010 **Research Assistant/Teaching Assistant, UBC. Vancouver.**  
*Part-time.* TA for undergraduate- and graduate-level Machine Learning and Software Engineering courses. RA projects include novel algorithms for computer game AI and a Machine Learning-based multimedia installation for the Vancouver Art Gallery.
- 2001 **Software Developer. SOMA Networks. Toronto, Canada.**  
Involved in implementation and testing of wireless network protocol for large start-up. Worked with C++, Java, and Perl.
- 1999 - 2001 **Compiler Optimization Developer. IBM. Toronto.**  
Worked on interprocedural analysis and optimization modules for IBM's C/C++/FORTRAN platform-portable compiler. Worked extensively with C and C++.

## Postgraduate Awards

- 2007 **First Place, ACM SIGGRAPH Student Research Competition**  
International publication award. \$1000 USD.
- Walter C Koerner Fellowship**  
UBC institutional award. \$14 000, plus \$2000 department top-up award.
- 2006 **University of British Columbia Graduate Fellowship**  
UBC institutional award. \$32 000.
- 2004 **NSERC PGSD Doctoral Scholarship**  
Canadian national award. \$42 000, plus \$4000 department award.

## Selected Publications

- 2011 M Hoffman, **E Brochu** and N de Freitas. Portfolio Allocation for Bayesian Optimization. 27th Conference on Uncertainty in Artificial Intelligence (UAI2011).
- 2010 **E Brochu**, T Brochu and N de Freitas. *A Bayesian Interactive Optimization Approach to Procedural Animation Design*. ACM SIGGRAPH/Eurographics 2010 Symposium on Computer Animation.
- E Brochu**, V M Cora and N de Freitas. *A Tutorial on Bayesian Optimization of Expensive Cost Functions, with Application to Active User Modeling and Hierarchical Reinforcement Learning*. eprint arXiv:1012.2599, arXiv.org, December 2010.
- 2009 R Martinez-Cantin, N de Freitas, **E Brochu**, J Castellanos and A Doucet. *A Bayesian Exploration-Exploitation Approach for Optimal Online Sensing and Planning with a Visually Guided Mobile Robot*. Autonomous Robots, 27 (2):93-103.
- 2007 **E Brochu**, A Ghosh and N de Freitas. *Preference Galleries for Material Design*. ACM SIGGRAPH Sketch. **First Place award, ACM SIGGRAPH 2007 Student Research Competition.**

*full list of publications available at [haikufactory.com/publications](http://haikufactory.com/publications)*

## Professional Activities

- 2011 Program committee, NIPS 2011 Workshop on Bayesian Optimization, Experimental Design and Bandits.
- 2008 A Davar, M Klaas and **E Brochu**. US Patent 20070156615 *entitled* Method for training a classifier
- 2006 **E Brochu**. *VAGUE: A Multimedia Navigation Tool*. Multimedia installation, Vancouver Art Gallery. October 2006 to January 2007. Part of exhibition "Emily Carr: New Perspectives on a Canadian Icon".
- Submission reviewer: IJCAI (2009), NIPS (2011, 2008, 2007), GI (2008), ICML (2007), AAI (2007), SIGGRAPH (2006, 2005, 2004), CVPR (2005, 2004).