Eric Brochu

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I have an academic background in Machine Learning and Artificial Intelligence and extensive industry experience. I have taken on a variety of technical and leadership roles as needed to help ship high-profile features and apps.

Employment

since dec 2020 **Software Engineering Architect** — **Salesforce (Tableau)** Vancouver, BC, Canada
apr 2020 - dec 2020 **Principal Software Engineer (PMTS)**

apr 2019 - apr 2020 **Staff Software Engineer** — **Tableau** Vancouver
mar 2016 - apr 2019 **Senior Software Engineer, Machine Learning** — *Purchased by Salesforce in 2019.*

- Working with team of engineers and scientists to add Recommendations and Automated Insights features to Tableau's data visualization product.
- Primary ML engineer on Tableau's first group of Recommendations features for Tableau Data Sources and Tables content, which shipped in 2017.
- As ML group (Augmented Analytics) has grown, I've been deeply involved in every step of the process, from feature conception, through prototyping and iteration, to productization and deployment infrastructure, to collecting feedback and marketing.
- Acted as scrum master, organized an ML Engineering and Data Science "guild", coached and mentored ML engineers.
- Published academic papers and technical documents and given numerous talks to Tableau and Salesforce internal and external audiences.
- My combination of research, engineering and leadership skills had given me an opportunity to cross feature teams and work directly with senior management on Tableau's Machine Learning strategy as well as individual features.

2014 - 2016 **Independent Developer and Consultant** — ***self-employed*** Vancouver

- Worked on iOS apps (mine and other peoples') as Machine Learning/Computer Vision consultant and general dev.

2011 - 2014 **iOS App Developer, *etc*** — **Pocket Pixels** Vancouver

- Developer on popular iOS photo editing apps Color Splash and Juxtaposer.
- As member of a 2-4 person studio, I was also deeply involved in UI/UX design, marketing, project management, customer support, *etc*. Releases I worked on have been featured by Apple in the iOS App Store numerous times and have made it into Apple's top10 Paid Apps.

2005 - 2009 **Senior Research Engineer** — **Zite** Vancouver

- Worked on Zite news recommender system engine. Algorithms I developed and implemented became a significant part of the Zite recommendation engine, which was acquired by Flipboard in 2014.

2001-2006, 2009-2010 **Research Assistant/Teaching Assistant** — **University of British Columbia** Vancouver

2001 **Software Engineer** — **SOMA Networks** Toronto, ON, Canada

1999 - 2001 **Compiler Optimization Developer** — **IBM Canada** Toronto

Education

2011 **PhD, Computer Science** **University of British Columbia** Vancouver, BC, Canada
Nando de Freitas, supervisor.
Thesis: Interactive Bayesian Optimization

Selected PhD awards:

First Place, ACM SIGGRAPH 2007 Student Research Competition
Walter C Koerner Fellowship
University of British Columbia Graduate Fellowship (UGF)
Natural Sciences and Engineering Research Council Doctoral Scholarship (NSERC PGS D)

The focus of my academic work was AI tools that augment human decision making. My thesis was on a novel system to assist humans in efficiently finding solutions to difficult problems by using Machine Learning (primarily Bayesian Optimization) to formulate minimal sets of questions or queries expected to be maximally informative. This work has more recently proved relevant to Hyperparameter Optimization and Automatic Machine Learning.

2004 **MSc, Computer Science** **UBC**

1998 **BSc, Computer Science** **University of Regina** Regina, SK, Canada
Graduated with Distinction

1997 **BA, English w/ minor in Film Studies** **University of Regina**
Graduated with Distinction

Selected Publications

D Ting and **E Brochu**. 2018. *Optimal Subsampling with Influence Functions*. Thirty-Second Annual Conference on Neural Information Processing Systems (NeurIPS 2018).

E Brochu, T Brochu and N de Freitas. 2010. *A Bayesian Interactive Optimization Approach to Procedural Animation Design*. ACM SIGGRAPH/Eurographics 2010 Symposium on Computer Animation.

E Brochu, VM Cora and N de Freitas. 2010. *A Tutorial on Bayesian Optimization of Expensive Cost Functions, with Application to Active User Modeling and Hierarchical Reinforcement Learning.* arXiv:1012.2599.

Cited > 1500 times.

E Brochu, A Ghosh and N de Freitas. 2007. *Preference Galleries for Material Design.* ACM SIGGRAPH Sketch.

First Place, ACM SIGGRAPH 2007 Student Research Competition.

Complete list available at Google Scholar.

Professional and Academic Activities

US Patent 10877970. *Identifying relevant data sources for a data visualization application*. Co-inventor with M Siegel.

US Patents 20070156615 & 20080262986. *Method for training a classifier*. Co-inventor with A Davar and M Klaas.

Submission reviewer for UIST (2019), NIPS/NeurIPS (2019, 2018, 2015, 2011, 2010, 2008, 2007), UAI (2017), IJCAI (2009), GI (2008), ICML (2007), AAAI (2007), SIGGRAPH (2010, 2009, 2006, 2005, 2004), CVPR (2005, 2004).

Program committee, NIPS 2011 Workshop on Bayesian Optimization, Experimental Design and Bandits.