Eric Brochu

Vancouver, BC, Canada
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Academic background in Machine Learning and Artificial Intelligence with extensive industry experience. Expert in developing scalable AI systems. Demonstrated leadership in leading successful ML engineering teams and delivering high-profile projects.

Employment

feb 2023 - present **Artificial Intelligence Architect** **Salesforce** Vancouver, BC, Canada

- Worked for Salesforce Einstein CoreML teams on AutoML and Explainable AI projects (2023).
- In late 2023 joined new GPT Content Moderation team, responsible for evaluating, deploying, and monitoring Trust and Safety models for the Einstein GPT platform.
- Successful projects include rewrite of AutoML pipeline, training and deploying first-party sensitive data masking models, and evaluation and integration of first- and third-party prompt defence, toxicity, and bias detection solutions.

dec 2020 - feb 2023 **Software Architect, Machine Learning** **Salesforce (Tableau)** Vancouver

- Established and led a centralized ML Engineering team for Tableau Analytics.
- Design, prototyping, productizing, and analysis of ML components for feature teams working on Recommendations, Relevance, and Automated Insights.
- Mentored and motivated ML Engineers.
- Key projects: Personalized Learning-to-Rank model implementation, automatic time-series analysis features, Feature Store integration in ML production infrastructure.

apr 2020 - dec 2020 **Principal Software Engineer, Machine Learning** **Tableau** Vancouver
apr 2019 - apr 2020 **Staff Software Engineer, ML**
mar 2016 - apr 2019 **Senior Software Engineer, ML**

- Evaluated, trained, tuned and deployed ML models and data pipelines in production environments.
- Acted as a scrum lead, founded an ML Engineering and Data Science "guild," and coached ML engineers.
- Published academic papers and technical documents and gave numerous talks to Tableau and Salesforce internal and external audiences.
- Key projects: Primary or lead ML engineer on Data Source & Tables Recommendations (shipped 2017), View Recommendations (2019), and Data Change Radar (2021).

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

- Worked as a Machine Learning/Computer Vision consultant for iOS apps.

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

- Dev on popular iOS photo editing apps, including Color Splash and Juxtaposer, which made the App Store Top 10 Paid Apps list. Involved in UI/UX design, marketing, project management, and customer support.

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

- Machine Learning R&D for Zite news recommender service (acquired by Flipboard).

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 is a novel system to assist humans in efficiently finding solutions to difficult problems by using Bayesian Optimization to formulate minimal sets of questions expected to be maximally informative

2004 **MSc, Computer Science** **UBC**
Nando de Freitas, supervisor
Thesis: Music Interpreted as Lexical Qualifiers

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

A Crisan, M Shang and **E Brochu**. 2023. *Eliciting Model Steering Interactions from Users via Data and Visual Design Probes*. IEEE Transactions on Visualization and Computer Graphics.

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

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 > 3000 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 here.

Professional and Academic Activities

Co-inventor on Machine Learning patents US20240134914A1 *Content based related view recommendations*, US10877970 *Identifying relevant data sources for a data visualization application*, US20080262986 *Method for training a classifier*, US20210133239 *Providing data visualizations based on personalized recommendations*, US20230143734 *Detecting anomalies in visualizations*. Several more have been filed as of 2024.

Submission reviewer for UIST, NIPS/NeurIPS, UAI, IJCAI, GI, ICML, AAAI, SIGGRAPH, CVPR.

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