LAUREN FRATAMICO

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Graduate Research Assistant • MIT Media Lab
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EDUCATION

Massachusetts Institute of Technology *September 2017 - Present*
MIT Media Lab

University of British Columbia *August 2013 - February 2016*
Master of Science, Computer Science

University of California, Berkeley *August 2009 - May 2013*
Bachelor of Arts, Computer Science

INDUSTRY EXPERIENCE

QI-Leap Analytics July 2016 - June 2017
Lead Data Scientist *Vancouver, BC*

Q.I. Leap's focus is on retail analytics for brick and mortar companies. We also operated as consultants. Some examples of the projects I worked on include (1) building NLP models to predict interaction with future published social media posts, (2) building demand prediction models to forecast future sales, and (3) mining data from NFL teams facebook pages and from ESPN blog posts to crowdsource opinions on which sports team is going to win.

SAP February 2016 - June 2016
Cloud Analytics Developer *Vancouver, BC*

Worked on SAPs BusinessObjects Insights tool (a tool to help users visualize and gain insights from their data). Specifically, I built tools to allow users to filter their data in a variety of ways.

Google May 2013 - August 2013
Software Development Intern *San Bruno, CA*

Developed a tool as a member of the YouTube Education team to expand the education channel and improve content.

Intel May 2012 - August 2012
Software Engineering Intern *Santa Clara, CA*

Intel Media Department - produced Java tools that interfaced with Amazon Cloud products: DynamoDB, S3, EMR.

ACADEMIC EXPERIENCE

**indicates a paid position*

MIT Media Lab September 2017 - Present
*Graduate Researcher** *Cambridge, MA*

Understanding the variety of reactions to mass shootings on twitter. The goal is to cluster the opinions people have and determine what is changing their minds over time. If we can detect this, perhaps we can also determine the best ways to interfere and change mass opinions.

UBC Centre for Teaching, Learning and Technology August 2016 - April 2017
Graduate Researcher *Vancouver, BC*

Created a visualization to allow users to understand ways to engineer features in their temporal dataset so that the resulting features are both (1) informative in their abstracted level and (2) able to differentiate labeled groups. This analytic method was applied to understand how different types of learners interact with an online, exploratory learning environment. A paper on this visual analytic approach was accepted to the 2017 Learning @ Scale conference.

UBC Computer Science Department August 2013 - February 2016
*Graduate Researcher** *Vancouver, BC*

Applied machine learning algorithms to cluster and classify low and high level learners and distinguish the actions they make while working through a physics circuit simulation. Developed a student model, and aimed to come up with suggestions for adaptive interventions. Presented paper on topic at the 2015 AIED conference. A journal paper on the topic has been accepted in IJAIED.

UBC Sauder School of Business June 2015 - Present
*Graduate Researcher** *Vancouver, BC*

Developing an efficient tool to parse heterogeneous US patent documents (1TB textual data, 1976 - present) to mine those containing key patterns of interest and extract features to correlate with stock market fluctuations.

UBC Computer Science Department August 2013 - May 2014
*Teaching Assistant - Human Computer Interaction (CPSC 344/544)** *Vancouver, BC*

Upper division/graduate level HCI course. Led weekly workshops and contributed to course redesign.

UC Berkeley School of Information September 2012 - December 2013
Undergraduate Researcher *Berkeley, CA*

Analyzed and visualized large datasets of phone calls in a developing South Asian country to determine the homophily of different groups in the population. Developed a novel way to measure segregation within a population. Paper on this topic accepted to the 2013 ACM DEV Conference.

UC Berkeley Political Science Department June 2012 - August 2013
*Undergraduate Researcher** *Berkeley, CA*

Developed tools to extract data from policies from the Office of Information and Regulatory Aairs (OIRA) and explored using topic models to help describe which policies OIRA chose to take action on.

UC Berkeley AMP (Algorithms, Machines, People) Lab October 2011 - January 2013
*Undergraduate Researcher** *Berkeley, CA*

Built an interactive visualization that allowed users to visually understand how the parameters they chose impacted the accuracy and speed of SNAP, a nucleotide alignment tool built by the lab.

Berkeley Institute of Soft Computing August 2012 - January 2013
Undergraduate Researcher *Berkeley, CA*

Applied machine learning techniques to analyze semantically similar sentences, classifying a set of sentences as referring to the same image or a different one based on the nouns, verbs, and adjectives used in the sentences.

PUBLICATIONS

Journal Articles

· **Fratamico, L.**, Conati, C., Roll, I., & Kardan, S. (January 2017). *Applying a framework for student modeling in interactive simulations: comparing data representation granularity to handle environment complexity.* International Journal of Artificial Intelligence in Education.

Conference Proceedings

· **Fratamico, L.**, Perez, S., & Roll, I. (April 2017). *A visual approach towards knowledge engineering and understanding how students learn in complex environments.* Proceedings of the 4th ACM conference on Learning @ Scale. ACM.

· Conati, C., **Fratamico, L.**, Kardan, S., & Roll, I. (June 2015). *Comparing representations for learner models in interactive simulations.* International Conference on Artificial Intelligence in Education (pp. 74-83). Springer International Publishing.

· Blumenstock, J., & **Fratamico, L.** (December 2013). *Social and spatial ethnic segregation: a framework for analyzing segregation with large-scale spatial network data.* Proceedings of the 4th Annual Symposium on Computing for Development (p. 11-20). ACM.

CONFERENCE PRESENTATIONS

Artificial Intelligence in Education June 2015
Comparing representations for learner models in interactive simulations *Madrid, Spain*

Learning @ Scale April 2017
A visual approach towards knowledge engineering and understanding how students learn in complex environments Cambridge, MA, USA

EXTRACURRICULAR ACTIVITIES

GIRLsmarts4tech November 2013 - February 2014;January 2016 - February 2016
Workshop Volunteer and Coordinator *Vancouver, BC*

Led middle school girls through a series of computer science activities to enthuse them about programming and computer science.

Let's Talk Science October 2015 - February 2015
Science Fair Mentor *Vancouver, BC*

Guided seven 9th graders through the completion of a science fair project. Taught them the scientific method, experimentation, and data analysis. Four progressed to the regional fair!

TECHNICAL STRENGTHS

Computer Languages	Python (6 years), Javascript (3 years), Java (2 years)
Statistical Software	Weka, NumPy, SciPy, R, SPSS, MATLAB
Databases	Some experience with relational databases and SQL