

LAUREN FRATAMICO

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Data Scientist - Conversational Health • Twitter • San Francisco, CA

Academic and industry experience in deep learning, machine learning, data science, information visualization, data scraping, and software development. Looking for a research or data science position. Especially interested in well-being and healthy conversations.

EDUCATION

Massachusetts Institute of Technology

Master of Science, MIT Media Lab

September 2017 - June 2019

University of British Columbia

Master of Science, Computer Science

August 2013 - February 2016

University of California, Berkeley

Bachelor of Arts, Computer Science

August 2009 - May 2013

EXPERIENCE

Twitter

Data Scientist

July 2019 - Present

San Francisco, CA

Support and guide the new features that Twitter is releasing in the conversational health space - this work includes opportunity sizing, experiment creation, metric implementation, post-hoc analyses, and stakeholder management. The main feature I supported was Hide Replies (released globally to over 300 million users), and a few others will be launching soon.

MIT Media Lab

Graduate Researcher

September 2017 - June 2019

Cambridge, MA

- Thesis work - Analyzed 2.5 million Reddit conversations about loneliness to understand the characteristics that facilitate healthy online conversations. Examined homophilous qualities of those communicating, as well as the style in which they communicate. Currently collaborating with a Harvard Business School Professor to expand and publish this work.
- Side Project - Investigated stylistic bias in sentiment analysis algorithms, towards more fair NLP systems. Compared LSTM, CNN, Naïve Bayes, and a rule-based model, and designed a simple word-pair substitution method to quantify bias on over 4 million tweets. Resulted in an ICML Workshop paper at FAT/ML.

QI-Leap Analytics (a retail analytics startup)

Lead Data Scientist

July 2016 - June 2017

Vancouver, BC

Q.I. Leap's focus is on retail analytics for brick and mortar companies. Some examples of the projects I worked on include (1) building demand prediction models to forecast future sales and (2) mining data from NFL teams facebook pages and from ESPN blog posts to crowdsource opinions on which sports team is going to win.

SAP

Cloud Analytics Developer

February 2016 - June 2016

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.

University of British Columbia

Graduate Researcher and Teaching Assistant

August 2013 - Present

Vancouver, BC

- Thesis work - Applying 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 to be used to provide adaptive interventions. Presented paper on topic at the 2015 AIED conference.
- Sauder School of Business Research - (1) Developed an efficient tool to parse heterogeneous USPTO documents from 1976 - present (≈ 1 TB textual data) to mine those containing key patterns of interest and (2) Developed an autonomous tool to continuously link patents produced with the appropriate parent company.
- Lead Teaching Assistant - Upper division/graduate level HCI course. Led weekly workshops and involved in course redesign.

Google

Software Development Intern

May 2013 - August 2013

San Bruno, CA

Developed a tool as a member of the YouTube Education team to expand the education channel and improve content. Tool released to over 10k whitelisted teachers to trial.

UC Berkeley

Undergraduate Researcher

October 2011 - November 2013

Berkeley, CA

- Political Science Department - Developed tools to extract data from policies from the Office of Information and Regulatory Affairs (OIRA) and explored using topic models to help describe which policies OIRA chose to take action on.
- Berkeley School of Information - Analyzed 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.

Intel

Software Engineering Intern

May 2012 - August 2012

Santa Clara, CA

Produced Java tools that interfaced with Amazon Cloud products: DynamoDB, S3, EMR as part of the Intel Media Department.

SELECTED PUBLICATIONS

**indicates shared first authorship. For full publication list, see my Google Scholar page.*

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.

Workshops

Shen, J.*, **Fratamico, L.***, Rahwan, I., Rush, A. (July 2018). *Darling or Babygirl? Investigating Stylistic Bias in Sentiment Analysis*. Fairness, Accountability, and Transparency in Machine Learning Workshop (FAT/ML).

CONFERENCE TALKS

Augmenting Intelligence with Bias-Aware Humans-in-the-Loop Workshop at TheWebConf May 2019
I'm Lonely. Who should I talk to? San Francisco, CA

Fairness, Accountability, and Transparency in Machine Learning Workshop (FAT/ML) at ICML July 2018
Darling or Babygirl? Investigating Stylistic Bias in Sentiment Analysis Stockholm, Sweden

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

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

EXTRACURRICULAR ACTIVITIES

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

Led 50 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 (8 years), R (3 years), Javascript (3 years), Java (2 years), Scala (1 year)
Machine Learning & AI	PyTorch, TensorFlow, pandas, numpy, scipy, Weka
Data & Databases	SQL, BigQuery, Mechanical Turk, Presto, various APIs, Selenium, AWS, DigitalOcean