LAUREN FRATAMICO

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Academic and industry experience in deep learning, machine learning, data science, information visualization, data scraping, and software development. Especially interested in healthy online interactions.

EDUCATION

Massachusetts Institute of Technology   September 2017 - June 2019
Master of Science, 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

EXPERIENCE

Avo Reviews   November 2022 - Present
Founder   *Remote*

Avo Reviews is a iOS and Android application that helps users find the best items while shopping. Users simply scan an item's barcode and then are able to see/write reviews about the product and, if the item is a grocery food, see nutrition and sustainability and how it compares to other products in the same category. App released globally February 2023 with 2.5M products in the database and coldstarted reviews scraped from online sources that were paraphrased via gpt3. React Native + Firebase stack.

Twitter   July 2019 - November 2022
Data Scientist   *San Francisco, CA*

· Data science lead on multiple features in the conversational health space, including Trusted Frienda, Conversation Controls, Author Moderated Replies which were released to over 300 million users globally. Responsible for opportunity sizing, experiment design, metric implementation, dashboarding, post-hoc analyses, and stakeholder management.
· Lead foundational research in the Healthy Conversation space. Launched a quantitative research survey to 50k Twitter users to understand customers' impressions on the meaningfulness of their recent Twitter conversations. Built traditional and deep learning models to understand the qualities of conversations and their participants that customers deem meaningful. Facilitated a partnership with Harvard Business School to jointly work on the project which informed future Twitter feature releases.
· Hackweek Winner - Project ideator and team lead on the 2021 People's Choice Winning Hackweek Project. We made #WhatHappened2020, a personalized Twitter Year In Review which was coded in React + BigQuery.

MIT Media Lab   September 2017 - June 2019
Graduate Researcher   *Cambridge, MA*

· Thesis - Used BigQuery and machine learning algorithms to analyze 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.
· Other Research - 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 word-pair substitution method to quantify bias in over 4 million tweets. Resulted in an ICML Workshop paper at FAT/ML.

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

Lead data scientist and project manager in a number of consulting projects from shoe sales forecasting to sports betting predictions. Closed the first sale for the team, bringing in our first source of external revenue, and pitched company projects to angel investors, leading to our largest investment at the time.

University of British Columbia   August 2013 - Present
Graduate Researcher and Teaching Assistant   *Vancouver, BC*

· Thesis - Analyzed behaviors of successful and unsuccessful students who completed an online physics circuit simulation. Developed a model to provide real-time adaptive interventions to future students working with the simulation to increase their learning. Presented research paper on topic at the 2015 AIED conference.
· Other Research - (1) Developed an algorithm to parse ≈1TB of heterogeneous US patent textual data from 1976 - present and (2) Developed a distributed computing setup for continuously scraping and analyzing US patent metadata that autonomously scaled to demand.

- Lead Teaching Assistant - Graduate-level HCI course. Led weekly workshops, mentored 6 groups of students through app design and user research methodologies, and redesigned course for future offerings.

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

Developed web app for teachers to find and curate educational content on YouTube. Released to 10k+ teachers.

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

Produced tools interfacing 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.

Conference Proceedings

Katsaros, M., Yang, K., & **Fratamico L.** (May 2022). *Reconsidering tweets: Intervening during tweet creation decreases offensive content.* Proceedings of the International AAAI Conference on Web and Social Media. Vol. 16. 2022.

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

AAAI Conference on Web and Social Media   May 2022
Reconsidering tweets: Intervening during tweet creation decreases offensive content   *Atlanta, GA*

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*

SIDE PROJECTS

- YouTube - Created channel with 20M views (+100k/day) of fully auto-generated content using AWS, Postgres, moviepy, Selenium.
- Audio Emotion Classification - Building neural network attention model to classify emotion and sentiment of spoken audio. Customized Facebook's pretrained wav2letter model for extracting embeddings of audio. Built GPU server to support this project.

TECHNICAL STRENGTHS

Programming Languages	Python (10 years), SQL (4 years), R (4 years), Javascript (3 years), Java (2 years), Scala (1 year)
Machine Learning & AI	PyTorch, pandas, numpy, scipy, matplotlib
Data & Databases	BigQuery, Presto, Mechanical Turk, AWS, Data Studio, Tableau