

Matt Mollison, Ph.D.

San Francisco, CA, USA

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Summary

Data scientist and machine learning enthusiast. Cognitive neuroscience Ph.D., studied human memory and learning. Driven to do impactful work in areas that benefit people and society. Values learning and enabling effective teamwork through clear communication and planning.

Skills

Programming Languages	Python, SQL, R, MATLAB, Objective-C*, C* (* prior experience)
Analysis Techniques	Statistics, machine learning (supervised & unsupervised, classification & regression), natural language processing, neural networks, time series analysis, experimental design, data visualization, data munging
Tools & Technologies	Pandas, scikit-learn, statsmodels, Jupyter notebooks (strong opinion on when to use them), Git, AWS, GCP, Flask, fast.ai, TensorFlow, PySpark

Experience

Branch International San Francisco, CA
DATA SCIENTIST Jan. 2019 – Present

Ansaro San Francisco, CA
COFOUNDER & CHIEF DATA SCIENTIST Jun. 2017 – Nov. 2018

- Led data science-related efforts including planning product analytics, scoping projects with customers, dev environment automation, analyses, model training, communicating results, and blogging.
- *Teach For America*: Developed interpretable machine learning models to predict applicant withdrawal risk based on application data and NLP feature engineering on written essays. These risk scores help recruiters prioritize outreach.
- *Dropbox*: Built a pipeline to parse 800,000+ resumes into structured data. Standardized and stored the parsed data in Greenhouse for analyses to understand interview and hiring patterns, as well as the drivers of quality of hire.
- *Harvard Business School*: Planned and executed a project that analyzed a large media text corpus using topic models and classifiers to identify trends about women in the workplace (ongoing research).
- Developed content for Ansaro's structured interview platform (200 interview questions across 16 topics) based on research about job performance predictive validity.
- Created the proof-of-concept web app for Ansaro's *AI Notetaker* (interview speech-to-text). Conducted user research to inform design choices. Our team then developed this in our product, enabling collection of valuable interview content.

Freelance Consultant San Francisco, CA
DATA SCIENTIST Apr. 2017 – May 2017

- Strategic planning for the analysis and processing/machine learning pipeline for a new sports-related mobile application.
- Analyzed time series motion sensor data collected with the mobile phone app.
- Trained and assessed machine learning models to predict current user behavior based on motion data.
- Supervised an Insight Data Science fellow in using my pipeline and models in their project.

Silicon Valley Data Science Mountain View, CA
DATA SCIENTIST Jan. 2015 – Mar. 2017

- Trained deep neural networks (RNN/LSTM) to create a speech recognition system, which was the seed R&D for a spinout company.
- Developed and deployed predictive models to production at a major global company, the results of which surfaced insights about customer behavior related to churn, purchasing patterns, fraud, and more.
- Created a process to train time series models (ARIMA) to forecast sales figures at a large energy company. The models reduced sales forecast error for the most recent quarter by 19.5% (roughly \$30MM).
- Helped develop a data strategy report at a large technology hardware manufacturing and supply chain management company. Through onsite research and interviews, the report detailed how to adapt and expand current data collection practices to provide analytics and data services across their verticals (retail, manufacturing, healthcare, transportation & logistics).
- Detected anomalous behavior in multi-terabyte system logs at a provider for the global travel and tourism industry.
- Co-developed an ARIMA time series modeling tutorial, presented at PyData SF 2016.

Insight Data Science

DATA SCIENCE FELLOW

Palo Alto, CA

Sep. 2014 – Nov. 2014

- Created *This Is Happening*, a website for finding social events happening now.
- Detected real-time events by streaming social media activity into a database and comparing current activity to baseline levels. Pockets of activity were used as seed locations for a clustering algorithm to label events.
- Summarized event topics using NLP, and made API calls to retrieve nearby social media (Twitter, Instagram).
- Deployed the front-end using Flask, Bootstrap, jQuery, JavaScript, HTML, CSS, and AWS.

University of Pennsylvania

LAB MANAGER AND RESEARCHER

Philadelphia, PA

2005 – 2008

- Programmed experiments in Python for studying memory and spatial navigation in humans.
- Analyzed behavioral and neural data recorded during memory tasks.
- Coordinated research and lab business with collaborators at institutions around the US.
- Presented research both at international conferences and in peer-reviewed publications.

Education

University of Colorado Boulder

PH.D. IN COGNITIVE NEUROSCIENCE

Boulder, CO

2015

- **Dissertation:** *Distributed practice and distributed representations: Investigating the spacing effect using EEG*
- Employed statistical and machine learning techniques on neural and behavioral data to assess hypotheses about memory formation, with implications for improving studying strategies in the real world.
- Communicated findings via publications and conference talks to greater psychological community.
- Developed **mat-mvm**, a MATLAB software package for organizing and analyzing neural data.
- Developed **expertTrain**, a MATLAB software framework for running psychology experiments.
- Programmed experiments in MATLAB and Python for studying human memory.
- Course instructor for *Introduction to Cognitive Psychology*.
- Teaching assistant for *Statistics*.

Brandeis University

B.A. IN PSYCHOLOGY

Waltham, MA

2005

- **Honors Thesis:** *Event-related potentials in humans during spatial navigation*
- Conducted and analyzed an experiment investigating neural correlates of high-level perception in a spatial navigation task, culminating in the above thesis and subsequent publication.

Honors & Awards

April 2016	2nd place team project , Kafka Stream Data Hackathon	San Francisco, CA
2009	Honorable Mention , National Science Foundation Graduate Research Fellowship	Boulder, CO
2003 – 2005	Dean's List , Brandeis University	Waltham, MA
2000	Eagle Scout , Troop 441	Scottsdale, AZ