Anthea Cheung

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SKILLS

- **Programming languages:** experienced in Python (5 years), proficient in Java, R, MATLAB, Bash
- **Libraries and frameworks:** numpy, scipy, scikit-learn, pandas, TensorFlow, Keras, matplotlib, Seaborn, Dash
- **Relevant coursework:** machine learning (graduate level), data structures, algorithms, optimization

EDUCATION

Boston University- ***Ph.D. in Mathematics*** May 2019

Wellesley College- ***B.A. in Mathematics, minor in computer science; magna cum laude*** May 2012

EXPERIENCE

Insight Data Science Boston, MA

Data Science Fellow Jun 2019-present

- Built a Dash web app to recommend restaurants in the Boston area that minimize travel time from multiple locations after inputting user preferences, and deployed app to eat-coast.com.
- Integrated restaurant and transit data from Yelp API, MBTA API, and Google Distance Matrix API; created method for finding optimal restaurants by ranking restaurants based on user preferences and performing Dijkstra's path-finding algorithm to minimize total travel time.

Boston University Boston, MA

Graduate Research and Teaching Fellow Sep 2013- May 2019

- Identified a novel mathematical explanation for seizure behavior by discovering spatiotemporal wave patterns in a computational neuroscience model and comparing them to empirical epilepsy data; presented results to 2 research conferences and invited seminars.
- Wrote algorithms in Python for computing partial differential equations experiments; analyzed tens of thousands of waves to identify and explain onset of unstable electrical activity in seizures.
- Conducted data analysis and visualization in MATLAB to categorize and extract features of seizure waves.
- Co-founded graduate mathematics colloquium in collaboration with several universities in the Boston area; organized four academic seminars per year.
- Led discussions for 10 courses in calculus, statistics, and discrete math with 40-150 students each; received Outstanding Teaching Fellow Award in 2017.

The Broad Institute of MIT and Harvard Cambridge, MA

Visiting Graduate Student; Aviv Regev Lab Jun 2017- Aug 2017

- Modeled and implemented neural networks in TensorFlow for learning gene networks in cell signaling pathways and presented results to other graduate students in the lab.
- Designed, tested, and developed evaluation metrics on simulated data sets to assess performance of a matrix factorization algorithm, resulting in a new gene compression methodology that reduces storage size of expression data, identifies functional gene groupings, and outperforms existing dimensionality reduction techniques; published in a peer-reviewed journal in collaboration with computational biologists.

Nuance Communications Cambridge, MA

Natural Language Understanding Engineer Sep 2012- Jul 2013

- Trained, applied quality control metrics, and tuned statistical speech models, leading to improved accuracy of multilingual voice-activated assistants deployed to Samsung mobile phones.
- Maintained machine learning and engineering tools in tandem with research scientists.
- Assessed and reported to the CTO on the performance of speech recognition models, in order to evaluate the accuracy of a newly adopted speech recognition software.