

Gabriel Grand

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EDUCATION

Harvard University

A.B. Honors Degree in Computer Science & Mind, Brain, and Behavior

Cambridge, MA

Aug. 2014 – Dec. 2018

- *Summa cum laude* w/ highest honors in CS. John Harvard Scholar (top 5% of class, GPA 3.97). Phi Beta Kappa.
- Thesis: *Learning Interpretable and Bias-Free Models for Visual Question Answering*, advised by Alexander Rush. 2019 Hoopes Prize recipient.
- Coursework: Artificial intelligence, machine learning, natural language processing, computational neuroscience, theory of computation, linear algebra, multivariate calculus, discrete math, probability theory.

EXPERIENCE

Reverie Labs

Machine Learning Engineer, Engineering Lead

Cambridge, MA

Feb. 2019 – present

- Developed and deployed models of molecular properties and protein-ligand interactions. Focus on graph convolutional neural networks, attention-based language models, and neuro-symbolic methods.
- Contributed to invention of a novel brain cancer therapeutic; in pre-clinical phase and under US patent review.
- Ongoing computational antiviral design efforts for open-source COVID Moonshot.

Google Brain

Associate Product Manager Intern, TensorFlow

Mountain View, CA

June – Aug. 2018

- Coordinated a team of 50+ engineers to implement technical improvements to TensorFlow infrastructure.
- Developed product strategy for deployment of production-scale TensorFlow models across 200+ Google products, including Ads, Cloud, Maps, Play, Shopping, and YouTube, as part of Google's company-wide AI-first initiative.

Google Brain

Software Engineering Intern, Google OCR

Mountain View, CA

May – Aug. 2017

- Developed an attention-based neural network architecture for end-to-end optical character recognition (OCR).
- Produced novel results on a multilingual OCR benchmark, and presented at 2017 Google Research Symposium.

MIT Brain and Cognitive Sciences

Research Assistant & Herchel Smith Fellow, Fedorenko Lab

Cambridge, MA

June 2016 – Mar. 2018

- Developed unsupervised algorithm to extract semantic information from GloVe and Word2Vec as part of the IARPA Knowledge Representation in Neural Systems (KRNS) project.

Harvard Center for Brain Science

Research Assistant, Cox Lab

Cambridge, MA

Feb. 2016 – May 2016

- Built streamlined, open-source Python pipeline for training computer vision models on eyetracking data.

Harvard Society for Mind, Brain, and Behavior

President, Board Member

Cambridge, MA

2014 – 2018

- Organized symposia featuring leading brain science and computer science researchers from the Boston area.

PUBLICATIONS

Adversarial Regularization for Visual Question Answering: Strengths, Shortcomings, and Side Effects. **Grand, G.** & Belinkov, Y. (NAACL 2019). Best Paper Award, SiVL-NAACL workshop. *arXiv:1906.08430*

On the Flip Side: Identifying Counterexamples in Visual Question Answering. **Grand, G.**, Szanto, A., Kim, Y., & Rush, A. KDD 2018. *arXiv:1806.00857*

Semantic Projection: Recovering Human Knowledge of Multiple, Distinct Object Features From Word Embeddings. **Grand, G.**, Blank, I. A., Pereira, F., & Fedorenko, E. (CUNY 2019). *arXiv:1802.01241*

SKILLS & INTERESTS

Programming: Python expert. Machine learning: TensorFlow (contributor), PyTorch, Sklearn. Experience in functional programming (OCaml, Swift) and scientific computing (MATLAB, R, C++). Fluent in modern web frameworks (Django, React, Ruby) and databases (PostgreSQL, DynamoDB, RDS). Infra: AWS, Google Cloud, Azure, Docker, Kubernetes.

Interests: Language learning {Spanish (fluent), Mandarin (learning)}, backpacking, skiing, rowing, jazz guitar.