

# BRANDON CARTER

MIT CSAIL, 32-G540 (Stata Center), Cambridge MA 02139  
brcarter@mit.edu | 516.350.0380 | www.brandoncarter.me

## Education

- Massachusetts Institute of Technology**, Cambridge, MA June 2019 (expected)  
**M.Eng Computer Science, Machine Learning** GPA: 5.0/5.0  
Developing methods for black-box model interpretability and computational antibody design; advised by Prof. David Gifford  
Teaching: 6.036 Machine Learning, Fall 2017 (with Profs. Leslie Kaelbling, Tommi Jaakkola, and Tomas Lozano-Perez)
- Massachusetts Institute of Technology**, Cambridge, MA June 2017  
**B.S. Computer Science and Engineering, B.S. Mathematics, Minor in Economics** GPA: 4.7/5.0  
**Select Coursework:** Bayesian Modeling and Inference, Machine Learning, Advanced Natural Language Processing, Performance Software Engineering, Theory of Computation, Computer and Network Security, Systems Security  
**Select Projects:** Variational LDA Topic Modeling Implementation, Collaborative Filtering with Sentiment, Twitter Follower Count Prediction with NLP, Unsupervised Network Anomaly Detection, Understanding eBay Price Dispersion

## Skills

- Programming:** Python, Java, C, JavaScript, SQL, PHP, HTML/CSS, familiar with R  
**Technologies:** NumPy/SciPy/Scikit-learn (contributor), TensorFlow, Keras, git, GDB, Hive, MySQL, LaTeX

## Experience

- Facebook** Menlo Park, CA  
Software Engineering Intern June 2018 - August 2018
- Developed and launched internationalized classifiers used in misinformation detection, leading to recall improvement up to 4x over existing methods, even when labeled data in foreign languages is unavailable
  - Discovered technique for paraphrasing text using neural machine back-translation to improve model performance and robustness in natural language tasks

- Bloomberg LP** New York, NY  
Engineering Machine Learning Intern June 2017 - August 2017
- Researched techniques for automatically recommending intelligent financial market alerts to Bloomberg users
  - Improved methods for implicit matrix factorization with side information, outperforming published approaches
- Engineering Machine Learning Intern May 2015 - August 2015
- Designed and implemented a topic modeling architecture to infer abstract topics from a large corpus of legal documents, including NLP preprocessing, evaluation, web-based topic visualizations, and parallelized computation
  - Enables lawyers to more quickly discover documents through improved information retrieval and recommendation

- KAYAK** Cambridge, MA  
Software Engineering and Data Analytics Intern May 2016 - September 2016
- Designed algorithms to analyze flight pricing data and generate informative natural language tips on a per-route basis, allowing users to save money when buying airfare; tips were used to build the 2017 KAYAK Travel Hacker
- Software Engineering and Data Analytics Intern June 2014 - May 2015
- Designed and implemented an algorithm for re-structuring links across millions of webpages to improve user experience and maximize profits, also built web interface and monitoring dashboard
  - Designed and implemented clustering model to compute similarities between hotels and cities

- Leiden Institute of Advanced Computer Science** Leiden, The Netherlands  
Visiting Researcher January 2016
- Investigated decision tree models using time series data of intensive care unit patients to enable physicians to make more informed decisions about blood transfusions; with Profs. Aske Plaat and Siegfried Nijssen

- Consulting and Personal Projects** June 2009 - Present
- Built save-science.org with Academics for the Future of Science at MIT, allowing thousands of people to easily contact Congress and support increased funding for scientific research
  - Designed a customer relation manager and donation-tracking platform for the Institute of MERIT math enrichment program at SUNY Old Westbury, used to manage hundreds of donors
  - Created StudentsThink, a resource for students to collaborate online, including forums and virtual whiteboards
  - Co-designed a social, music-optimizing jukebox in MIT's October 2013 Hackathon

- Biomedical Research** June 2011 - August 2013
- Investigated single-domain antibodies for tumor vaccine development (with Dr. Hidde Ploegh, MIT Whitehead Institute)
  - Investigated adenovirus treatment in cell/animal models (with Dr. Seth Epstein, Mount Sinai); co-author at ARVO 2012

## Activities

World Traveling; Sailing; Golf; Aviation (student pilot); Music (concert pianist and double bassist)