

# Brian Trippe | Curriculum Vitae

182 Elm St, Cambridge, MA – 02139 – USA

📞 +1 781 424 0865 • ✉ btrippe@mit.edu • 🌐 www.briantrippe.com

## Education

---

- **Massachusetts Institute of Technology** **Cambridge, MA - USA**  
*Ph.D., Computational and Systems Biology* *2017–Present*  
Advisor: Tamara Broderick
- **University of Cambridge** **Cambridge - UK**  
*M.Phil., Engineering* *2016–2017*  
Supervisors: Richard Turner and Máté Lengyel
- **Columbia College** **New York, NY - USA**  
*B.A., Biochemistry and Computer Science, Summa Cum Laude* *2012–2016*

## Experience

---

- **Computer Science and AI Lab (CSAIL)** **Massachusetts Institute of Technology**  
*Graduate Student* *Spring 2018 – Present*
- **Computational and Biological Learning Lab (CBL)** **University of Cambridge**  
*Postgraduate Researcher* *September 2016 – August 2017*
- **Harmen Bussemaker Lab** **Columbia University**  
*Undergraduate Researcher* *September 2015 – August 2016*
- **Google Accelerated Sciences** **Google Research**  
*Software Engineering Intern* *Summer 2014 & Summer 2015*
- **Martin Chalfie Lab** **Columbia University**  
*Undergraduate Researcher* *September 2012 – January 2015*

## Leadership and Teaching Experience

---

- **Bayesian Modeling and Inference (6.435)** **MIT - Computer Science**  
*Teaching Assistant* *Spring 2019*
- **High School Studies Program – “Networks Everywhere!”** **MIT - ESP**  
*Volunteer Teacher & Curriculum Developer* *Summer 2018*
- **Introduction to Neuroscience (Part IIA - 3G3)** **University of Cambridge - Engineering**  
*Supervision Leader* *Lent Term 2017*
- **Advanced Programming (COMS W3157)** **Columbia - Computer Science**  
*Teaching Assistant* *Fall 2014 & Spring 2015*
- **Discrete Mathematics (COMS W3203)** **Columbia - Computer Science**  
*Teaching Assistant* *Fall 2013 & Spring 2014*
- **Columbia Club Water Polo** **Columbia University**  
*Captain and Goalie* *2012 -2016*

## Relevant Publications

---

- **Trippe, B.L.**; Huggins, J. H.; Agrawal, R.; Broderick, T. (2019) "LR-GLM: High-Dimensional Bayesian Inference Using Low-Rank Data Approximations" In *Proc. of the 36th International Conference on Machine Learning*.
- Agrawal, R.; Huggins, J. H.; **Trippe, B.L.**; Broderick, T. (2019) "The Kernel Interaction Trick: Fast Bayesian Discovery of Pairwise Interactions in High Dimensions" In *Proc. of the 36th International Conference on Machine Learning*.
- **Trippe, B.L.**; Turner, R.E. "Overpruning in Variational Bayesian Neural Networks" In *Neural Information Processing Systems 2017 Workshop on Advances in Approximate Bayesian Inference*. *arXiv:1801.06230 [stat.ML]*
- **Trippe, B.L.**; Turner, R.E. "Conditional Density Estimation with Bayesian Normalising Flows" In *Neural Information Processing Systems 2017 Workshop on Bayesian Deep Learning*. *arXiv:1802.04908 [stat.ML]*
- Zheng, C.; Jin, F.Q.; **Trippe, B.L.**; Wu, J.; Chalfie, M. "Inhibition of Cell Fate Repressors Secures the Differentiation of the Touch Receptor Neurons of *Caenorhabditis Elegans*" In *Development*, November 2018
- Dimon, M.T.H.; Berndl, M.; Coram, M.A.; **Trippe, B.L.**; Riley, P.F.; Nelson, P.C. "Neural Network for Processing Aptamer Data" U.S. Patent 3,159,819, issued April 26, 2017.
- **Trippe, B.L.**; Prabhakaran, S.; Bussemaker, H.J. "The K-mer Motif Multinomial Mixture Model" *Neural Information Processing Systems 2016, workshop: Computational Biology*(Poster).
- **Trippe, B.L.**; Prabhakaran, S.; Bussemaker, H.J. "K-mer Motif Multinomial Mixtures" . Preprint Available: [www.doi.org/10.1101/096735](http://www.doi.org/10.1101/096735)

## Reviewing

---

- Uncertainty in Artificial Intelligence (UAI) 2019
- Symposium on Advances in Approximate Bayesian Inference 2018
- NeurIPS 2018 workshop on Bayesian Nonparametrics
- NeurIPS 2018 workshop on Bayesian Deep Learning

## Talks

---

- **MIT CSAIL – MLTea Talk, Cambridge, MA** **June 2019**  
*LR-GLM: High-Dimensional Bayesian Inference Using Low-Rank Data Approximations*
- **International Conference on Machine Learning, Long Beach, CA** **June 2019**  
*LR-GLM: High-Dimensional Bayesian Inference Using Low-Rank Data Approximations*
- **Broad Institute of MIT and Harvard, Cambridge, MA** **October 2018**  
*MIA Series Primer: Fast Bayesian Inference with Low-Rank Data Approximations*
- **Prowler.io, Cambridge - UK** **December 2017**  
*Conditional Density Estimation with Bayesian Normalizing Flows*

## Awards and Honors

---

- ICML Travel Award, 2019
- NSF Graduate Research Fellowship, 2018
- Hertz Foundation Fellowship Finalist, 2018
- Half Blue in Water Polo, University of Cambridge, 2017
- Euretta J. Kellett Fellowship (support for MPhil at Cambridge UK), Columbia College, 2016
- Phi Beta Kappa, Columbia College, 2016
- Summa Cum Laude, Columbia College, 2016
- Departmental Honors in Biological Sciences, Columbia University, 2016
- Departmental Honors in Computer Science, Columbia University, 2016
- Collegiate Water Polo Association – All-Conference First Team Goalie, 2015
- Barry Goldwater Scholarship, 2015
- Summer Undergraduate Research Fellowship, Columbia University, 2013
- Mark E. Kingdon and Anla Cheng Kingdon Named Scholarship, Columbia College, 2012-2016
- City of Cambridge Scholarship Award, 2012