

# Dustin Tran

Ph.D. Student  
Columbia University  
Department of Computer Science  
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## Education

Ph.D. Computer Science, Columbia University Advisors: David M. Blei, Andrew Gelman	2016–
M.S. Computational Science & Engineering, Harvard University Advisor: Edoardo M. Airoldi	2014–2015
B.A. (Hon.) Mathematics, Statistics, University of California, Berkeley	2010–2014

## Employment

Visiting Researcher Graduate School of Business, Stanford University Supervisor: Susan Athey Collaborators: Matt Hoffman, Kevin Murphy	2016
Visiting Researcher Department of Statistics and Computer Science, Columbia University Supervisors: David M. Blei, Andrew Gelman	2015

## Awards

Adobe Research Fellowship (\$10,000)	2016
Columbia SEAS Fellowship (Full funding)	2016–
LinkedIn Economic Graph Challenge	2015
Harvard GSAS Fellowship (Full funding)	2015
Dorothea Klumpke Roberts Prize in Mathematics	2014
Regents' and Chancellor's Scholarship (Full funding)	2010–2014
Rose Hills Foundation Science & Engineering Grant (\$5,000)	2013
Cal Alumni Leadership Scholarship (\$2,500)	2010

## Publications

PREPRINTS

1. **D. Tran** and D.M. Blei. Discussion of “Fast Approximate Inference for Arbitrarily Large Semiparametric Regression Models via Message Passing”. *Journal of the American Statistical Association*, To appear.
2. **D. Tran**, A. Kucukelbir, A. Gelman, B. Carpenter, and D.M. Blei. Stan: Generalizing and automating variational inference.
3. A. Kucukelbir, **D. Tran**, R. Ranganath, A. Gelman, and D.M. Blei. Automatic differentiation variational inference.
4. **D. Tran**, P. Toulis, and E.M. Airoldi. Stochastic gradient descent methods for estimation with large data sets.

#### REFEREED CONFERENCE PAPERS

5. R. Ranganath, **D. Tran**, J. Alotaar, and D.M. Blei. Operator variational inference. In *Neural Information Processing Systems*, 2016.
6. R. Ranganath, **D. Tran**, and D.M. Blei. Hierarchical variational models. In *International Conference on Machine Learning*, 2016.
7. **D. Tran**, M. Kim, and F. Doshi-Velez. Spectral M-estimation with application to hidden Markov models. In *Artificial Intelligence and Statistics*, 2016.
8. P. Toulis, **D. Tran**, and E.M. Airoldi. Towards stability and optimality in stochastic gradient descent. In *Artificial Intelligence and Statistics*, 2016.
9. **D. Tran**, R. Ranganath, and D.M. Blei. The variational Gaussian process. In *International Conference on Learning Representations*, 2016.
10. **D. Tran**, D.M. Blei, and E.M. Airoldi. Copula variational inference. In *Neural Information Processing Systems*, 2015.

## Software

1. Edward: A Python library for probabilistic modeling, inference, and criticism 2016–  
**D. Tran**, A. Dieng, A. Kucukelbir, D. Liang, M. Rudolph, and D.M. Blei.
2. Stan: A probabilistic programming language 2012–  
A. Gelman, B. Carpenter, M. Hoffman, D. Lee, B. Goodrich, M. Betancourt, M. Brubaker, J. Guo, P. Li, A. Riddell, M. Inacio, J. Arnold, M. Morris, R. Trangucci, R. Goodman, B. Lau, J. Gabry, A. Kucukelbir, R. Grant, **D. Tran**, K. Sakrejsda, A. Vehtari, R. Lei, and S. Weber.
3. sgdr: An R package for large-scale estimation 2015  
**D. Tran**, P. Toulis, and E.M. Airoldi.

## Teaching

1. Teaching Assistant | Columbia University 2016  
STAT/CS 6509: Foundations of Graphical Models

- |  |      |
|--|------|
| 2. Teaching Fellow   Harvard University<br>AM 205: Advanced Scientific Computing–Numerical Methods                     | 2015 |
| 3. Teaching Assistant   University of California, Berkeley<br>MATH 10B: Methods in Calculus, Statistics, Combinatorics | 2013 |
| 4. Teaching Assistant   University of California, Berkeley<br>MATH 128A: Numerical Analysis                            | 2011 |

## Professional Service

### JOURNAL REVIEWING

- |   |      |
|---|------|
| Foundations and Trends in Machine Learning                | 2016 |
| Journal of Machine Learning Research                      | 2016 |
| Statistics and Computing                                  | 2016 |
| Transactions on Pattern Analysis and Machine Intelligence | 2016 |

### CONFERENCE REVIEWING

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| International Conference on Learning Representations | 2016 |
| International Conference on Machine Learning         | 2016 |
| Knowledge Discovery and Data Mining                  | 2016 |
| Neural Information Processing Systems                | 2016 |
| Uncertainty in Artificial Intelligence               | 2016 |

### WORKSHOP ORGANIZATION

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|--|------|
| NIPS: Advances in Approximate Bayesian Inference | 2016 |
| NIPS: Advances in Approximate Bayesian Inference | 2015 |

### PROFESSIONAL MEMBERSHIPS

- American Statistical Association
- Association of Computing Machinery
- Bernoulli Society
- Institute of Electrical and Electronics Engineers
- Institute for Mathematical Statistics
- International Society for Bayesian Analysis
- Royal Statistical Society

## Invited Talks and Panels

1. NIPS Workshop: Advances in Approximate Bayesian Inference – BARCELONA, ES 2016
2. NIPS Workshop: Bayesian Nonparametrics – BARCELONA, ES 2016
3. Twitter Cortex – CAMBRIDGE, MA 2016
4. Google Brain – MOUNTAIN VIEW, CA 2016
5. International Conference on Learning Representations – SAN JUAN, PR 2016
6. PPAML/DARPA Meeting – NEW YORK, NY 2016
7. Harvard University – CAMBRIDGE, MA 2016
8. NIPS Workshop: Advances in Approximate Bayesian Inference – MONTREAL, CA 2015
9. NIPS Workshop: Black Box Learning and Inference – MONTREAL, CA 2015
10. Massachusetts Institute of Technology – CAMBRIDGE, MA 2015
11. Harvard University – CAMBRIDGE, MA 2015
12. Microsoft Research – CAMBRIDGE, MA 2015
13. University of Connecticut – STORRS, CT 2015
14. Max Planck Institute for Intelligent Systems – TÜBINGEN, DE 2015