Dustin Tran

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

Ph.D. Computer Science, Columbia University — 2016–
Advisors: David M. Blei, Andrew Gelman

M.S. Computational Science & Engineering, Harvard University — 2014–2015
Advisor: Edoardo M. Airoldi

B.A. (Hon.) Mathematics, Statistics, University of California, Berkeley — 2010–2014

Employment

Visiting Researcher — Summer 2016
Graduate School of Business, Stanford University
Supervisor: Susan Athey

Visiting Researcher — 2015
Department of Statistics and Computer Science, Columbia University
Supervisors: David M. Blei, Andrew Gelman

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**, F. Ruiz, S. Athey, and D.M. Blei. Model criticism for Bayesian causal inference.
2. **D. Tran**, D.M. Blei, A. Kucukelbir, A. Dieng, M. Rudolph, and D. Liang. Edward: A library for probabilistic modeling, inference, and criticism.
3. A. Dieng, **D. Tran**, R. Ranganath, J. Paisley, and D.M. Blei. The χ divergence for approximate inference.
4. **D. Tran**, A. Kucukelbir, A. Gelman, B. Carpenter, and D.M. Blei. Stan: Generalizing and automating variational inference.
5. A. Kucukelbir, **D. Tran**, R. Ranganath, A. Gelman, and D.M. Blei. Automatic differentiation variational inference.
6. **D. Tran**, P. Toulis, and E.M. Airoldi. Stochastic gradient descent methods for estimation with large data sets.

Refereed Journal Papers

7. **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.

Refereed Conference Papers

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

Software

1. Edward: A 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. Goedman, B. Lau, J. Gabry, A. Kucukelbir, R. Grant, **D. Tran**, K. Sakrejda, A. Vehtari, R. Lei, and S. Weber.

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

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

Artificial Intelligence and Statistics	2017
International Conference on Learning Representations	2016, 2017
International Conference on Machine Learning	2016
Knowledge Discovery and Data Mining	2016
Neural Information Processing Systems	2016
Uncertainty in Artificial Intelligence	2016

WORKSHOP ORGANIZATION

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