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 — 2016
Graduate School of Business, Stanford University
Supervisor: Susan Athey
Collaborators: Matt Hoffman, Kevin Murphy

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. A. Kucukelbir, **D. Tran**, R. Ranganath, A. Gelman, and D.M. Blei. Automatic differentiation variational inference.
2. **D. Tran**, P. Toulis, and E.M. Airoldi. Stochastic gradient descent methods for estimation with large data sets.

Refereed Conference Papers

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

- 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

- 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. Google Brain – MOUNTAIN VIEW, CA 2016

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