Wesley Tansey

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Education

2011–2017 **PhD in Computer Science, University of Texas at Austin**
Advisor: Prof. James G. Scott
Dissertation: Scalable smoothing algorithms for massive graph-structured data

2006–2008 **MS in Computer Science, Virginia Tech**

2003–2006 **BS in Computer Science, Virginia Tech**

Academic Appointments

2017–Present **Postdoctoral Research Scientist, Columbia University**
Supervisors: Profs. Raul Rabadan and David Blei.

2016 **Visiting Researcher, Duke University**
Supervisor: Prof. Lawerence Carin

2015 **Visiting Researcher, Stanford University**
Supervisor: Prof. Russell Poldrack

Awards

Columbia Data Science Institute Seed Funds Grant: $200K to develop personalized cancer therapies using deep probabilistic models

2x Recipient of the Garg Fellowship for Research with Real-World Impact

Recipient of NSF Beacon Grant

NSF Graduate Research Fellowship Program, Honorable Mention in Machine Learning

Outstanding Graduate Student Award, Virginia Tech

Publications and Preprints

2019 **W. Tansey**, J. H. Loper, L. Lei, and W. Fithian. Smoothed nested testing on directed acyclic graphs. *arXiv preprint arXiv:1911.09200*, 2019.

2019 **W. Tansey**, C. Tosh, and D. M. Blei. Relational dose-response modeling for cancer drug studies. *arXiv preprint arXiv:1906.04072*, 2019.

2019 C. Burns, J. Thomason, and **W. Tansey**. Interpreting black box models via hypothesis testing. *arXiv preprint arXiv:1904.00045*, 2019.

2018 **W. Tansey**, K. Li, H. Zhang, S. W. L. Linderman, R. Rabadan, D. M. Blei, and C. H. Wiggins. Dose-response modeling in high-throughput cancer drug screenings: An end-to-end approach. *In revision at Biostatistics (arXiv preprint arXiv:1812.05691)*, 2018.

2018 **W. Tansey**, V. Veitch, H. Zhang, R. Rabadan, and D. M. Blei. The holdout randomization test: Principled and easy black box feature selection. *arXiv preprint arXiv:1811.00645*, 2018.

2018 **W. Tansey**, Y. Wang, D. M. Blei, and R. Rabadan. Black box FDR. In *International Conference on Machine Learning*, pages 4874–4883, 2018.

2018 **W. Tansey**, O. Koyejo, R. A. Poldrack, and J. G. Scott. False discovery rate smoothing. *Journal of the American Statistical Association*, 113(523):1156–1171, 2018.

2018 **W. Tansey**, K. Pichotta, and J. G. Scott. Leaf-smoothed hierarchical softmax for ordinal prediction. In *AAAI Conference on Artificial Intelligence*, 2018.

2018 **W. Tansey**, J. Thomason, and J. G. Scott. Maximum-variance total variation denoising for interpretable spatial smoothing. In *AAAI Conference on Artificial Intelligence*, 2018.

2017 **W. Tansey**, A. Athey, A. Reinhart, and J. G. Scott. Multiscale spatial density smoothing: an application to large-scale radiological survey and anomaly detection. *Journal of the American Statistical Association*, 112(519):1047–1063, 2017.

2016 **W. Tansey**, E. W. Lowe, and J. G. Scott. Diet2vec: Multi-scale analysis of massive dietary data. In *NIPS Workshop on Machine Learning for Health*, 2016.

2015 **W. Tansey**, O.-H. Madrid-Padilla, A. Suggala, and P. Ravikumar. Vector-space markov random fields via exponential families. In *International Conference on Machine Learning*, 2015.

2012 R. Miikkulainen, E. Feasley, L. Johnson, I. Karpov, P. Rajagopalan, A. Rawal, and **W. Tansey**. Multiagent learning through neuroevolution. *Advances in Computational Intelligence*, pages 24–46, 2012.

2012 **W. Tansey**, E. Feasley, and R. Miikkulainen. Accelerating evolution via egalitarian social learning. In *International Conference on Genetic and Evolutionary Computation Conference*, pages 919–926. ACM, 2012.

2009 M. Song, E. Tilevich, and **W. Tansey**. Trailblazer: A tool for automated annotation refactoring. In *ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications*, pages 813–814. ACM, 2009.

2008 **W. Tansey** and E. Tilevich. Annotation refactoring: Inferring upgrade transformations for legacy applications. In *ACM SIGPLAN Conference on Object-Oriented Programming Systems, Languages, and Applications*, volume 43, pages 295–312. ACM, 2008.

2008 **W. Tansey** and E. Tilevich. Efficient automated marshaling of C++ data structures for MPI applications. In *IEEE International Symposium on Parallel and Distributed Processing*, pages 1–12. IEEE, 2008.

2008 S. Gopal, **W. Tansey**, G. Kannan, and E. Tilevich. DeXteR: An extensible framework for declarative parameter passing in distributed object systems. In *ACM/IFIP/USENIX International Conference on Middleware*, pages 144–163. Springer-Verlag New York, Inc., 2008.

Invited Talks

2020 Columbia University, Symposium on Probability and Society.

2020 Johns Hopkins University, Department of Biostatistics Seminar.

2020 University of California at Los Angeles, Department of Biostatistics Seminar.

2020 Columbia University, Department of Statistics Seminar.

2020 University of British Columbia, Department of Medical Genetics Seminar.

2020 Duke University, AI + Health Seminar.

2020 University of North Carolina at Chapel Hill, Computational Medicine Seminar.

2020 MD Anderson, Bioinformatics and Computational Biology Seminar.

2020 Memorial Sloan Kettering Cancer Center, Computational Oncology Seminar.

2020 University of Minnesota, Department of Statistics Seminar.

2020 University of Texas at Austin, Department of Statistics and Data Sciences Seminar.

2020 University of Illinois at Urbana-Champaign, Department of Statistics Seminar.

2020 Purdue University, Department of Electrical and Computer Engineering Seminar.

2020 University of Chicago, Booth School of Business Seminar.

2019 Broad Institute, Seminar Series on Models, Inference, and Algorithms.

2018 Broad Institute, Next Generation in Biomedicine Symposium.

2018 Broad Institute, Nature Conference on Big Data and Cancer.

2018 University of Illinois at Urbana-Champaign, Department of Computer Science Seminar.

2018 University of Notre Dame, Department of Statistics Seminar.

2018 University of Chicago, Department of Statistics.

2018 International Conference on Machine Learning; Stockholm, Sweden.

2018 University of Texas at Austin, Department of Statistics Seminar.

2016 NIPS Workshop on Machine Learning for Health; Barcelona, Spain.

2015 Invited Session at Joint Statistical Meetings; Seattle, WA.

2015 International Conference on Machine Learning; Lille, France.

2015 ISBA Nonparametric Bayes; Raleigh, NC.

2012 International Conference on Genetic and Evolutionary Computation Conference; Philadelphia, PA.

2009 ACM SIGPLAN Conference on Object Oriented Programming Systems, Languages, and Applications; Nashville, TN.

2008 IEEE International Symposium on Parallel and Distributed Processing; Miami, FL.

Professional Service

Co-organizer: 2018, 2019, & 2020 ICML Workshops on Computational Biology

Reviewer: JASA, AoS, AoAS, Biostatistics, Biometrika, JMLR, NeurIPS

Intellectual Entrepreneurship pre-grad mentor

Other Experience

2014	**Data Science Intern, MyFitnessPal**
2013–2014	**Machine Learning Consultant, Atlas Wearables**
2013	**Software Engineering Intern, Google**
2011–2014	**Teaching Assistant, Computer Science Department, UT Austin**
2011–2012	**Co-founder, Curvio (Tech Startup)**
2010	**Co-founder, EffectCheck (Tech Startup)**
2010–2011	**Machine Learning Consultant, Natural Selection Financial**
2008–2010	**Quantitative Research Associate, Lincoln Vale Adaptive Strategies (Hedge Fund)**