JANUARY 2018

MATT TADDY

PROFESSIONAL POSITIONS

AMAZON
Vice President of Economic Technology and Chief Economist for North America (since 2018)

UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS
Professor of Econometrics and Statistics, 2016-2018
Associate Professor, 2012-2016
Assistant Professor, 2008-2012

MICROSOFT
Head of Economics and Data Science for Business AI, 2017
Principal Researcher at Microsoft Research, 2016-2017

EBAY, Research Fellow, 2014-2016

EDUCATION

Ph.D. Applied Mathematics and Statistics, June 2008
UNIVERSITY OF CALIFORNIA SANTA CRUZ
Baskin School of Engineering

M.S. Mathematical Statistics, June 2005
MCGILL UNIVERSITY, MONTRÉAL
Department of Mathematics and Statistics

B.A. Philosophy and Mathematics, June 2003
MCGILL UNIVERSITY, MONTRÉAL

PUBLICATIONS

M. Taddy (2018). The Technological Elements of Artificial Intelligence. *NBER working paper 24301*.

B. Kelly, D. Papanikolaou, A. Seru, M. Taddy (2018). Measuring Technological Innovation over the Long Run. *NBER working paper 25266*.

M. Gentzkow, B. Kelly, and M. Taddy (2017). Text as Data. *NBER working paper 23276*.

J. Hartford, G. Lewis, K. Leyton-Brown, M. Taddy (2017). Counterfactual Prediction with Deep Instrumental Variables Networks. *ICML 2017*.

A. Kozlowski, M. Taddy, J. Evens (2018). The Geometry of Culture: Analyzing Meaning through Word Embeddings, with Kozlowski and Evans. *To appear in the American Sociological Review.*

M. Gentzkow, J. Shapiro, and M. Taddy (2018). Measuring group differences in high dimensional choices: Method and application to Congressional speech. *To appear in Econometrica*.

M. Wan, D. Wang, M. Goldman, M. Taddy, J. Rao, J. Liu, D. Lymberopoulos, and J. McAuley (2017). Modeling consumer preferences and price sensitivities from large-scale grocery shopping transaction logs. *Proceedings of WWW 2017.*

S. Upadhyay, K. Chang, M. Taddy, A. Kalai, and J. Zou (2017). Beyond Bilingual: Multi-sense Word Embeddings using Multilingual Context. Best paper winner in *2nd Workshop on representation learning for NLP*.

M. Taddy (2017). One-step estimator paths for concave regularization. *Journal of Computational and Graphical Statistics*.

M. Taddy (2016). Comment: A regularization scheme on word occurrence rates that improves estimation and interpretation of topical content (Airoldi and Bischof). *Journal of the American Statistical Association.*

M. Taddy, M. Gardner, L. Chen, and D. Draper (2016). Nonparametric Bayesian analysis of heterogeneous treatment effects in digital experimentation. *Journal of Business and Economic Statistics*.

M. Kolar and M. Taddy (2016). Comment: Coauthorship and citation networks for statisticians (Ji and Jin). *Annals of Applied Statistics.*

M. Taddy, C. Chen, J. Yun, and M. Wyle (2015). Bayesian and empirical Bayesian forests. Proceedings of the *32nd International Conference on Machine Learning (ICML 2015)*.

M. Taddy (2015). Distributed Multinomial Regression. *Annals of Applied Statistics 9*, 1395–1414.

M. Taddy (2015). Document classification by inversion of distributed language representations. Proceedings of the *53rd Meeting of the Association for Computational Linguistics (ACL 2015)*.

R.G. Gramacy and M. Taddy and S. Tian. Hockey player performance via regularized logistic regression. To appear in the *Handbook of statistical methods for design and analysis in sports*, CRC press.

M. Taddy (2013). Multinomial inverse regression for text analysis. *Journal of the American Statistical Association 108*, 755–770, with discussion.

M. Taddy (2013). Rejoinder: Efficiency and structure in MNIR. *Journal of the American Statistical Association 108*.

R.B. Gramacy and M. Taddy and S.M. Wild (2013). Variable selection and sensitivity analysis via dynamic trees with an application to computer code performance tuning. *Ann. of Applied Stat. 7*, 51–80.

M. Taddy (2013). Measuring political sentiment on Twitter: Factor-optimal design for multinomial inverse regression. *Technometrics 55*, 415–425.

R.B. Gramacy and S.T. Jensen and M. Taddy (2013). Estimating player contribution in hockey with regularized logistic regression. *Journal of Quantitative Analysis of Sports 9*, 97–111.

M. Taddy and A. Kottas (2012). Mixture modeling for marked Poisson processes. *Bayesian Analysis 7*, 335–362.

M. Taddy (2012). On estimation and selection for topic models. Proceedings of the *15th International Conference on Artificial Intelligence and Statistics (AISTATS 2012)*.

M. Taddy, R.B. Gramacy and N.G. Polson (2011). Dynamic trees for learning and design. *Journal of the American Statistical Association 106*, 109–123.

M. Taddy (2010). An auto-regressive mixture model for dynamic spatial Poisson processes: Application to tracking the intensity of violent crime. *Journal of the American Statistical Association 105*, 1403–1417.

M. Taddy and A. Kottas (2010). A Bayesian nonparametric approach to inference for quantile regression. *Journal of Business and Economic Statistics 28*, 357–369.

C.M. Carvalho, H.F. Lopes, N.G. Polson, and M. Taddy (2010). Particle learning for general mixtures. *Bayesian Analysis 5*, 709–740.

H.K.H. Lee, M. Taddy, R.B. Gramacy, and G.A. Gray (2010). Designing and analyzing a circuit device experiment using treed Gaussian processes. *Handbook of Applied Bayesian Analysis, Chap. 28*, Oxford University Press.

R.B. Gramacy and M. Taddy (2010). Categorical inputs, sensitivity analysis, optimization and importance tempering with tgp version 2, an R package for treed Gaussian process models. *Journal of Statistical Software 33*, Issue 6.

H.K.H. Lee, M. Taddy, and G.A. Gray (2010). Selection of a representative sample. *Journal of Classification 27*, 41–53.

M. Taddy, H.K.H. Lee, G.A. Gray, and J. Griffin (2009). Bayesian guidance for robust pattern search optimization. *Technometrics 51*, 389–401.

M. Taddy and A. Kottas (2009). Markov switching Dirichlet process mixture regression. *Bayesian Analysis 4*, 793–816.

M. Taddy, B. Sansó and H.K.H. Lee (2009). Fast inference for statistical inverse problems. *Inverse Problems 25* 085001.

R.D. Morris, A. Kottas, M. Taddy, R. Furfaro and B.D. Ganapol (2008). A statistical framework for the sensitivity analysis of radiative transfer models. *IEEE Transactions on Geoscience and Remote Sensing 46*, 4062–4074.

G.A. Gray, M. Martinez-Canales, M. Taddy, H.K.H. Lee, and R.B. Gramacy (2006). Enhancing parallel pattern search optimization with a Gaussian process oracle. *Proceedings of the 14th NECDC*.

TEACHING

CHICAGO BOOTH

Big Data 2011+ ('Data Mining' prior to 2014).
Created the course, runs annually for 200 MBAs

Applied Regression Analysis 2008-2010

2013 NBER ECONOMETRICS LECTURES
Two day course with V. Chernozukov, C. Hansen, M. Gentzkow, and J. Shapiro

TEACHING ASSISTANT at UCSC and McGill in mathematics, applied math, and statistics

FUNDING AND AWARDS

Microsoft Research Expedition: The ALICE Project (founder and leader), 2016-2017

University of Chicago, Fellow of the Computation Institute, 2014-2017

Emory Williams teaching award (chosen by students), Chicago Booth, 2016.

McKinsey teaching award (chosen by faculty), Chicago Booth, 2016.

NSF Grant, Division of Social and Economic Sciences, September 2016.
Bilateral Bargaining through the Lens of Big Data, with Tadelis, Larsen, and Backus.

University of Chicago Neubauer Family Faculty Fellow, 2011-2015

Chicago Booth Robert L. Graves Scholar, 2010 - 2011

Chicago Booth Fama-Miller Center Research Grant 2011-2012

ISBA Savage Award Honorable Mention, 2010
For outstanding PhD dissertation contribution in applied Bayesian methodology

IBM Corporation Scholar, University of Chicago, 2009 - 2010

Research member of the NMFS Center for Stock Assessment Research, 2007 - 2008

Fonds Québécoise de la recherche sur la nature et les technologies, 2004

Graduate Student Researcher at
Lawrence Livermore National Laboratory, 2007, advised by Herbie Lee and Bruno Sansó
NASA Ames, 2007, advised by Athanasios Kottas and Robin Morris
Sandia National Laboratories, 2006-2007, advised by Genetha Grey and Herbie Lee
Los Alamos National Laboratory, 2006, advised by Dave Higdon, Herbie Lee, and Bruno Sansó.
Montréal Jewish General Hospital and URGENCES-SANTÉ, 2004, RA advised by Alain Vandal.

Petro-Canada Olympic Torch scholarship for student athletes, 1999-2000

Canadian 18 & under national sailing champion, men's singlehanded dinghy (laser), 1999