Sameer K. Deshpande

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CONTACT

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RESEARCH INTERESTS

Bayesian hierarchical modeling. Bayesian treed regression. Model selection. Causal inference. Applications in public health and sports.

EMPLOYMENT

Massachusetts Institute of Technology, CSAIL, 2018 – present
Postdoctoral Associate
Supervisor: Tamara Broderick

EDUCATION

University of Pennsylvania, The Wharton School, Philadelphia, PA
Ph.D. Statistics, May 2018
Thesis Title: "Bayesian model selection and estimation without MCMC"
Thesis Supervisors: Ed George and Veronika Ročková

Massachusetts Institute of Technology, Cambridge, MA
S.B. Mathematics, June 2013

PUBLICATIONS

Deshpande, S.K., Hasegawa, R.B., Weiss, J., Small, D.S. (2019). "The association between football participation in adolescence and mental health in early adulthood." (submitted).

Deshpande, S.K. and Evans, K.E. (2019). "Expected hypothetical completion probability." *Journal of Quantitative Analysis in Sports.* (accepted). [arXiv:1910.12337].

Gaulton, T.G., **Deshpande, S.K.**, Small, D.S., Neuman, M.D. (2019). "Observational study of the association between participation in high school football and self-rated health, obesity, and pain in late adulthood." *American Journal of Epidemiology* (accepted).

Deshpande, S.K., Ročková, V., George, E.I. (2019) "Simultaneous variable and covariance selection with the multivariate spike-and-slab LASSO." *Journal of Computational and Graphical Statistics* (accepted). [arXiv:1708.08911]. Code available at: `https://github.com/skdeshpande91/multivariate_SSL`

Hasegawa, R.B, **Deshpande, S.K.**, Rosenbaum, P.R., Small, D.S. (2019). "Causal inference with two versions of treatment." *(invited revision).* [arXiv:1705.03918]

Deshpande, S.K. and Wyner, A.J. (2017). "A hierarchical Bayesian model of pitch framing." *Journal of Quantitative Analysis in Sports.* 13(3): 95 – 112. **Editor's Choice article**. [arXiv:1704.00823].

Deshpande, S.K., Hasegawa, R.B., Rabinowitz, A.R., Whyte, J., Roan, C.L., Tabatabaei, A., Baiocchi, M., Karlawish, J.H., Master, C.L., and Small, D.S. (2017). "Association of Playing High School Football With Cognition and Mental Health Later in Life." *JAMA Neurology.* 74(8): 909–918. `https://jamanetwork.com/journals/jamaneurology/fullarticle/2635831`.

Deshpande, S.K. and Jensen, S.T. (2016). "Estimating an NBA player's impact on his team's chances of winning," *Journal of Quantitative Analysis in Sports*. 12(2): 51 – 72. **Editor's Choice article**. [arXiv:1604.03186]

WORKING PAPERS & PAPERS IN PROGRESS

Balocchi, C., **Deshpande, S.K.**, George, E.I., and Jensen, S.T. (2019). "Bayesian spatial clustering of crime in Philadelphia with particle optimization." (technical report).

Deshpande, S.K., Bai, R., Balocchi, C., and Starling, J.E. (2019). "VC-BART: Bayesian trees meet varying coefficients." (in preparation).

Weiss, J., Rabinowitz, A.R., **Deshpande, S.K.**, Hasegawa, R.B., and Small, D.S. (2019). "Observational study of the effects of early-life participation in contact sports on later-life cognition in a sample of monozygotic and dizygotic Swedish twins reared together and twins reared apart." (in preparation).

HONORS & AWARDS

Third Prize, Ruth and William Silen, M.D. Poster Award, New England Science Symposium (2019)

Finalist, National Football League Big Data Bowl (2019)

Deming Student Scholar Award, Deming Conference on Applied Statistics. (2017)

J. Parker Bursk Memorial Award for excellence in research, Statistics Department, Wharton. (2017)

Donald S. Murray Prize for excellence in teaching, Statistics Department, Wharton (2016)

Wharton Doctoral Program Fellowship, Wharton (2013).

Travel Awards: O'Bayes (2017), BNP12 (2019), O'Bayes (2019)

TEACHING

University of Pennsylvania

STAT 621: *Accelerated Regression Analysis for Business* Teaching Assistant. Fall 2016 – 17.

STAT 613: *Regression Analysis for Business*. Teaching Assistant. Fall 2014 – 15, 2017.

STAT 431: *Statistical Inference*. Teaching Assistant. Spring 2016.

STAT 432: *Mathematical Statistics*. Teaching Assistant. Spring 2015.

Massachusetts Institute of Technology

18.05: *Introduction to Probability and Statistics*. Teaching Assistant. Spring 2013.

Other

Wharton Moneyball Academy. Instructor. Summer 2014 – 18

Designed and taught an introductory `R` *course for high school students. Material available at* `https://skdeshpande91.github.io/wharton_moneyball/`

INVITED TALKS

Expected hypothetical completion probability – CMU Sports Analysis Conference 2019 (upcoming).

Estimating the health consequences of playing football using observational data: challenges, lessons learned, and new directions – JSM 2019, Ohio State Bayesian Causal Inference Workshop 2019, NESS 2019, CMU Sports Analytics Conference 2018

Simultaneous variable and covariance selection with the multivariate spike-and-slab LASSO – ISBA 2018, Eco Sta 2018, BayesComp 2018, CMStatistics 2017

CONTRIBUTED TALKS

Approximate multiple shrinkage for clustered regression – BNP 2019.

Bayesian spatial clustering with particle optimization – JSM 2018.

Simultaneous variance and covariance selection with the multivariate spike-and-slab LASSO – JSM 2017, SBIES 2018.

A hierarchical model of pitch framing – JSM 2016, NESSIS 2015

Estimating an NBA player's impact on his team's chances of winning – JSM 2014, JMM 2015

SERVICE

Journal Reviewer: Annals of Applied Statistics, The American Statistician, Journal of Computational and Graphical Statistics, Bayesian Analysis, Journal of Quantitative Analysis in Sport, PLoS One

Conference Reviewer: BNP @ NeurIPS 2018, AISTATS 2019, ICML 2019, UAI 2019, NeurIPS 2019, AAAI 2020, AISTATS 2020