Andrew J. Holbrook, Ph.D.

Postdoctoral Scholar
Department of Human Genetics, University of California, Los Angeles
6558 Gonda Building, 695 Charles E. Young Drive, South
Los Angeles, CA 90095-1766
Email: aholbroo@g.ucla.edu
Phone: 949.939.8105 Fax: 310.825.8685

Research Interests

Bayesian learning, Markov chain Monte Carlo, dimension reduction, viral epidemiology, neural decoding

Dissertation title: *Geometric Bayes*; Advisor: Prof. Babak Shahbaba, Ph.D.

Education

2013-2018, Ph.D., Statistics, University of California, Irvine, CA

2013-2015, M.S., Statistics, University of California, Irvine, CA

2005-2009, B.A., German and Classical Languages, University of California, Berkeley, CA

Academic Awards and Scholarships

Savage Award, Theory and Methods (2018), Finalist

Carl W. Cotman Young Investigator Award (2018)

UC Irvine Graduate Dean's Dissertation Fellowship Award (2017-2018)

UCI MIND Aging Fellowship (2015-2017)

Robert L. Newcomb Memorial Endowed Graduate Student Award (2014)

Refereed Publications

7. Tustison N, **Holbrook A**, Avants B, Roberts J, Cook P, Reagh Z, Stone J, Gillen D, Yassa M. *Longitudinal mapping of cortical thickness measurements: an Alzheimer's Disease Neuroimaging Initiative-based evaluation study*. Journal of Alzheimer's Disease, In Press, 2019.
6. **Holbrook A**, Lumley T, Gillen D. *Estimating prediction error for complex samples*. Canadian Journal of Statistics, In Press, 2019.
5. Li L, **Holbrook A**, Shahbaba B, Baldi P. *Neural network gradient Hamiltonian Monte Carlo*. Computational Statistics, vol. 34, no. 1, pp. 281-299, 2019.
4. **Holbrook A**. *Differentiating the pseudo determinant*. Linear Algebra and its Applications, vol. 548, pp. 293-304, 2018.
3. **Holbrook A**, Lan S, Vandenberg-Rodes A, Shahbaba B. *Geodesic Lagrangian Monte Carlo over the space of positive definite matrices: with application to Bayesian spectral density estimation.* Journal of Statistical Computation and Simulation, vol. 88, no. 5, pp. 982-1002, 2018.
2. **Holbrook A**, Vandenberg-Rodes A, Fortin N, Shahbaba B. *A Bayesian supervised dual-dimensionality reduction model for simultaneous decoding of LFP and spike train signals.* Stat Journal, vol. 6, no. 1, pp. 53-67, 2017.
1. Grill J, **Holbrook A**, Pierce A, Hoang D, Gillen D. *Attitudes toward Potential Participant Registries.* Journal of Alzheimer's Disease, vol. 56, no. 3, pp. 939-946, 2017.

Teaching

- Teaching Assistant, Stat 7 – Introduction to Probability and Statistics (Fall 2014, Summer 2015); Department of Statistics, University of California, Irvine

- Teaching Assistant, Stat 8 – Biostatistics (Winter 2015); Department of Statistics, University of California, Irvine
- Teacher, Mathematics and English as a Second Language (2010-2011); Dalian American International School

Professional Experience

- Postdoctoral scholar with Prof. Marc A. Suchard, M.D., Ph.D. at the Department of Human Genetics, University of California, Los Angeles; Los Angeles, California (2018-present)
- Statistical consultant, the Alzheimer's Disease Research Center at the University of California, Irvine; Irvine, California (2015-2017)
- Statistical consultant, the Center for Statistical Consulting at the University of California, Irvine; Irvine, California (Winter and Spring 2014)
- Trainee, the Summer Institute for Training in Biostatistics at North Carolina State University and the Duke Clinical Research Institute; Raleigh, North Carolina (Summer 2013)
- Teacher, the Dalian American International School; Dalian, People's Republic of China (2010-2011)

Service and Community Involvement

- Lead organizer, *Conference on philosophy of machine learning: knowledge and causality*. March 17-18, 2018 at the University of California, Irvine
- Member, American Statistical Association (2018-present)

Journal Reviewer

Bayesian Analysis

IEEE Transactions on Industrial Electronics