Nhat Pham Minh Ho

CONTACT INFORMATION

Department of Statistics and Data Sciences
University of Texas, Austin
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ACADEMIC APPOINTMENTS

University of Texas, Austin, TX, USA — Sep 2020-present

- Assistant Professor (tenure-track), Department of Statistics and Data Sciences
- Core Member, Machine Learning Laboratory

University of California, Berkeley, CA, USA — Sep 2017-June 2020

- Post-doctoral Scholar in EECS
- Mentors: Professors Michael I. Jordan and Martin J. Wainwright

EDUCATION

University of Michigan, Ann Arbor, Michigan USA

Ph.D in Statistics, 2012 - 2017

- Advisors: Professors Long Nguyen and Ya'acov Ritov
- Thesis: Parameter estimation and multilevel clustering with mixture and hierarchical models

Master of Arts in Statistics, 2012-2013

Ho Chi Minh City University of Science, Ho Chi Minh City, Vietnam

B.S in Mathematics and Computer Science, 2007-2011

- Major: Partial Differential Equations (PDE) and Numerical Analysis
- Rank: 3/3200 - *Summa Cum Laude*

RESEARCH INTERESTS

A central theme of my research focuses on four principles of data science, statistics, and machine learning: heterogeneity, interpretability, stability, and scalability:

- Heterogeneity (Bayesian nonparametrics, hierarchical and mixture models)
- Interpretability (model misspecification, deep generative model, convolutional neural networks)
- Stability (robust statistics, (non)-convex optimization in statistical settings)
- Scalability (computational optimal transport, approximate Bayesian inference, distributed computing)

JOURNAL SUBMISSIONS

Nhat Ho**, Stephen Walker**. Multivariate smoothing via the Fourier integral theorem and Fourier kernel. *Under review, Journal of Machine Learning Research.*

Jiacheng Zhu, Jeongyeol Kwon, **Nhat Ho**, Constantine Caramanis. On the computational and statistical complexity of over-parameterized matrix sensing. *Under review, Journal of Machine Learning Research.*

Nhat Ho**, Stephen Walker**. On general integral theorems: approximation errors and optimal functions. *Under review, SIAM Journal on Mathematics of Data Science.*

Mingzhang Yin, **Nhat Ho**, Bowei Yan, Mingyuan Zhou. Probabilistic best subset selection by gradient-based optimization. *Under review, Journal of Machine Learning Research.*

Chiao-Yu Yang, Eric Xia, **Nhat Ho**, Michael I. Jordan. Posterior distribution for the number of clusters in Dirichlet process mixture models. *Under review, Journal of Machine Learning Research.*

Chiao-Yu Yang, Lihua Lei, **Nhat Ho**, Will Fithian. BONuS: Multiple multivariate testing with a data-adaptive test statistic. *Arxiv preprint, To be submitted.*

Nhat Ho**, Stephen Walker**. Statistical analysis from the Fourier integral theorem. *To be submitted, Journal of Machine Learning Research.*

Tudor Manole, **Nhat Ho**. Uniform convergence rates of parameter estimation under Gaussian identifiable mixtures. *To be submitted, IEEE Transaction on Information Theory.*

Tudor Manole, **Nhat Ho**. Revisiting convergence rate of penalized MLE on finite mixture models. *To be submitted, Information and Inference: A Journal of the IMA.*

Aritra Guha, **Nhat Ho**, Chiao-Yu Yang, Long Nguyen, Michael I. Jordan. Bayesian sieves and excess mass behavior in infinite mixtures. *To be submitted, Annals of Statistics.*

Dat Do*, **Nhat Ho***, XuanLong Nguyen. Statistical efficiency of parameter estimation in generalized contaminated models. *To be submitted, Journal of Machine Learning Research.*

Wenlong Mou, **Nhat Ho**, Martin J. Wainwright, Peter Bartlett, Michael I. Jordan. A Poisson equation perspective on Berstein-Von Mises theorem. *To be submitted, Annals of Statistics.*

Tudor Manole, Cody Mazza-Anthony, **Nhat Ho**, Abbas Khalili. On efficient model selection for mixture of regressions. *To be submitted.*

Conference Submissions

Khai Nguyen, Dinh Quoc, **Nhat Ho**, Tung Pham, Hung Bui, Dinh Phung, Trung Le. BoMb-OT: On batch of mini-batches optimal transport. *Under review, NeurIPS.*

Khang Le*, Huy Nguyen*, Quang Nguyen, **Nhat Ho**, Tung Pham, Hung Bui. On robust optimal transport: computational complexity, low-rank approximation, and barycenter computation. *Under review, NeurIPS.*

Son Nguyen, Khai Nguyen, **Nhat Ho**, Tung Pham, Hung Bui. Improving Bayesian inference in deep neural networks with variational structured dropout. *Under review, NeurIPS.*

Dang Nguyen, Khai Nguyen, **Nhat Ho**, Dinh Phung, Hung Bui. On efficient model fusion of neural networks. *Under review, NeurIPS.*

Huy Nguyen, Dat Do, **Nhat Ho**, Dinh Phung, Hung Bui, Trung Le. A geometric perspective on label shift. *Under review, NeurIPS.*

Tam Le*, Viet Huynh*, **Nhat Ho***, Makoto Yamada, Dinh Phung. On scalable variant of Wasserstein barycenter. *Under review, AAAI.*

Huy Nguyen*, Khang Le*, Tung Pham, **Nhat Ho**. On multimarginal partial optimal transport: Equivalent forms and computational complexity. *Under review, AISTATS.*

Huy Nguyen*, Khang Le*, Tung Pham, **Nhat Ho**. Entropic Gromov-Wasserstein between Gaussian distributions. *Under review, AISTATS.*

Khai Nguyen, Dang Nguyen, **Nhat Ho**. An efficient minibatch method via partial transportation. *Under review, ICLR.*

Tongzheng Ren, Fuheng Cui, **Nhat Ho**. Computational and statistical complexity of adaptive gradient methods. *To be submitted, AISTATS.*

Tongzheng Ren, Fuheng Cui, **Nhat Ho**. On statistical and computational complexities of accelerated methods. *To be submitted, AISTATS.*

Dat Do, Tue Le, **Nhat Ho**, Dinh Phung, Hung Bui, Trung Le. On label shift for multi-source domain adaptation. *To be submitted, ICML.*

Huy Nguyen, Tuan Nguyen, **Nhat Ho**, Dinh Phung, Hung Bui, Trung Le. A weighted loss function for open-and partial-set domain adaptation. *To be submitted, ICML.*

Journal Publications

Nhat Ho*, Raaz Dwivedi*, Koulik Khamaru*, Martin J. Wainwright, Michael I. Jordan, Bin Yu. Instability, computational efficiency, and statistical accuracy. *Under revision.*

Wenlong Mou*, **Nhat Ho***, Martin J. Wainwright, Peter Bartlett, Michael I. Jordan. A diffusion process perspective on posterior contraction rates for parameters. *arXiv preprint arXiv: 1909.00966, Under revision.*

Nhat Ho, Chiao-Yu Yang, Michael I. Jordan. Convergence rates for Gaussian mixtures of experts. *Under revision.*

Tan Nguyen*, **Nhat Ho***, Ankit Patel, Anima Anankumar, Michael I. Jordan, Richard Baraniuk. A Bayesian perspective of convolutional neural networks through a deconvolutional generative model. *Under revision.*

Tianyi Lin, **Nhat Ho**, Michael I. Jordan. On the acceleration of the Sinkhorn and Greenkhorn algorithms for optimal transport. *Under revision.*

Wenlong Mou, **Nhat Ho**, Martin J. Wainwright, Peter Bartlett, Michael I. Jordan. Sampling for Bayesian mixture models: MCMC with polynomial-time mixing. *Under revision.*

Nhat Ho*, Tianyi Lin*, Michael I. Jordan. On structured filtering-clustering: global error bound and optimal first-order algorithms. *Under revision.*

Tianyi Lin, **Nhat Ho**, Marco Cuturi, Michael I. Jordan. On the complexity of approximating multi-marginal optimal transport. *Under revision.*

Avi Feller**, Evan Greif**, **Nhat Ho****, Luke W. Miratrix**, Natesh S. Pillai**. Weakly separation in mixture models and implications for principal stratification. *Under revision.*

Aritra Guha, **Nhat Ho**, XuanLong Nguyen. On posterior contraction of parameters and interpretability in Bayesian mixture modeling. *Bernoulli 27 (4), 2159-2188, 2021.*

Viet Huynh*, **Nhat Ho***, Nhan Dam, XuanLong Nguyen, Mikhail Yurochkin, Hung Bui, Dinh Phung. On efficient multilevel clustering via Wasserstein distances. *Journal of Machine Learning Research 22 (145), 1-43, 2021.*

Raaz Dwivedi*, **Nhat Ho***, Koulik Khamaru*, Martin J. Wainwright, Michael I. Jordan, Bin Yu. Singularity, misspecification, and the convergence rate of EM. *Annals of Statistics*, 48(6), 3161-3182, 2020.

Nhat Ho, XuanLong Nguyen, Ya'acov Ritov. Robust estimation of mixing measures in finite mixture models. *Bernoulli, 26(2), 828-857, 2020.*

Nhat Ho and XuanLong Nguyen. Singularity structures and impacts on parameter estimation in finite mixtures of distributions. *SIAM Journal on Mathematics of Data Science, 1(4), 730-758, 2019.*

Nhat Ho and XuanLong Nguyen. Convergence rates of parameter estimation for some weakly identifiable finite mixtures. *Annals of Statistics*, 44(6), 2726-2755, 2016.

Nhat Ho and XuanLong Nguyen. On strong identifiability and convergence rates of parameter estimation in finite mixtures. *Electronic Journal of Statistics* , 10(1), 271-307, 2016.

Conference Publications

Trung Le, Tuan Nguyen, **Nhat Ho**, Hung Bui, Dinh Phung. LAMDA: Label matching deep domain adaptation. *ICML, 2021.*

Jeong Y. Kwon, **Nhat Ho**, Constantine Caramanis. On the minimax optimality of the EM algorithm for learning two-component mixed linear regression. *AISTATS, 2021.*

Trung Nguyen, Hieu Pham, Tam Le, Tung Pham, **Nhat Ho**, Son Hua. Point-set distances for learning representations of 3D point clouds. *ICCV, 2021.*

Tam Le*, **Nhat Ho***, Makoto Yamada. Flow-based alignment approaches for probability measures in different spaces. *AISTATS, 2021.*

Khai Nguyen, **Nhat Ho**, Tung Pham, Hung Bui. Distributional sliced-Wasserstein and applications to generative modeling. *ICLR, 2021 (Spotlight).*

Khai Nguyen, Son Nguyen, **Nhat Ho**, Tung Pham, Hung Bui. Improving relational regularized autoencoders with spherical sliced fused Gromov-Wasserstein. *ICLR, 2021.*

Tianyi Lin*, Chenyou Fan*, **Nhat Ho**, Marco Cuturi, Michael I. Jordan. Projection robust Wasserstein distance and Riemannian optimization. *Advances in NeurIPS, 2020 (Spotlight).*

Tianyi Lin, **Nhat Ho**, Xi Chen, Marco Cuturi, Michael I. Jordan. Revisiting fixed support Wasserstein barycenter: Computational hardness and efficient algorithms. *Advances in NeurIPS, 2020.*

Khiem Pham*, Khang Le*, **Nhat Ho**, Tung Pham, Hung Bui. On unbalanced optimal transport: an analysis of Sinkhorn algorithm. *Proceedings of the ICML, 2020.*

Raaz Dwivedi*, **Nhat Ho***, Koulik Khamaru*, Martin J. Wainwright, Michael I. Jordan, Bin Yu. Sharp analysis of Expectation-Maximization for weakly identifiable models. *AISTATS, 2020.*

Wenshuo Guo, **Nhat Ho**, Michael I. Jordan. Fast algorithms for computational optimal transport and Wasserstein barycenters. *AISTATS, 2020.*

Tianyi Lin*, **Nhat Ho***, Michael I. Jordan. On efficient optimal transport: an analysis of greedy and accelerated mirror descent algorithms. *Proceedings of the ICML, 2019.*

Nhat Ho*, Viet Huynh*, Dinh Phung, Michael I. Jordan. A probabilistic approach to multilevel clustering via composite transportation distance. *AISTATS, 2019.*

Raaz Dwivedi*, **Nhat Ho***, Koulik Khamaru*, Martin J. Wainwright, Michael I. Jordan. Theoretical guarantees for EM under misspecified Gaussian mixture models. *Advances in NeurIPS, 2018.*

Nhat Ho, XuanLong Nguyen, Mikhail Yurochkin, Hung Bui, Viet Huynh, Dinh Phung. Multi-level

clustering via Wasserstein means. *Proceedings of the ICML, 2017.*

Refereed Workshop papers

Yujia Huang*, Sihua Dai*, Tan Nguyen*, **Nhat Ho***, Ankit Patel, Anima Anankumar, Michael Jordan, Richard Baraniuk. Neural rendering model: rethinking neural networks from the joint generation and prediction perspective. *Conference on Mathematical Theory of Deep Neural Networks, 2019.*

Nhat Ho*, Tan Nguyen*, Ankit Patel, Anima Anankumar, Michael Jordan, Richard Baraniuk. Neural rendering model: Joint generation and prediction for semi-supervised learning. *NIPS workshop on Integration of Deep Learning Theories, 2018.*

Nhat Ho*, Tan Nguyen*, Ankit Patel, Anima Anankumar, Michael Jordan, Richard Baraniuk. Latent-dependent deep rendering model. *ICML workshop on Theoretical Foundations and Applications of Deep Generative Models, 2018.*

Teaching

Fall 2021, SDS 384 Statistical Machine Learning Optimization

Spring 2021, SDS 323 Statistical Learning and Inference

Workshop Organization

Integration of Deep Learning Theories at NeurIPS 2018, Palais des Congrès de Montréal, Canada.

Co-organize with Professors Richard Baraniuk, Stephane Mallat, Anima Anandkumar, and Ankit Patel

Awarded Grant

PI, IFML Grant, *Computational and Methodological Perspectives of Optimal Transport in Machine Learning*, $50,000, September,2021 - August, 2022

Invited Seminar Presentations

Instability, statistical accuracy, and computational efficiency. *BLISS Seminar, Department of Electrical Engineering and Computer Sciences, April, 2021, UC Berkeley.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Department of Decision Sciences at Bocconi University, Italy, November 2020.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Young Data Science Researcher Seminar, ETH Zurich, July 2020.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Biostatistics, March 2020, University of California, Berkeley.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics and Data Science, February 2020, CMU.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, February 2020, University of California, Los Angeles.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics and Data Science, February 2020, Cornell University.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, February 2020, Rutgers University.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, February 2020, Purdue University.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Data Science, February 2020, University of California, San Diego.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Data Science, February 2020, John Hopskins University.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, February 2020, University of Wisconsin, Madison.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, March 2020, University of Toronto.* (Invited talk - Canceled)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, February 2020, Duke University.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics and Data Sciences, January 2020, University of Texas, Austin.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, January 2020, University of Illinois, Urbana-Champaign.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Booth School of Management, January 2020, University of Chicago.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Data Science and Operation Research, January 2020, University of Southern California.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, January 2020, North Carolina State University.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, January 2020, University of Minnesota, Twin Cities.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Krannert School of Management, January 2020, Purdue University.* (Invited talk)

Statistical and computational perspectives on latent variable models. *Statistics Seminar, Department of Statistics, January 2020, Pennsylvania State University.* (Invited talk)

On multi-layer latent variable models: computational and statistical perspective. *Mathematics of Data and Decisions Seminar, Department of Mathematics, December, 2019, UC Davis.* (Invited talk)

On optimal transport in machine learning and data science: computational, modeling, and theoretical perspective. *Research Seminar, VinAI Research, October, 2019, Ha Noi, Viet Nam.* (Invited talk)

Statistical and computational perspective of mixture and hierarchical models. *BLISS Seminar, Department of Electrical Engineering and Computer Sciences, October, 2019, UC Berkeley.* (Invited talk-Canceled)

Singularity structures of mixture models: Statistical and computational perspective. *Department Seminar, Department of Electrical Engineering and Computer Sciences, Rice, November, 2018,*

Houston, Texas. (Invited talk)

Conference, Workshop Presentations

On optimal transport in machine learning and data science: computational, modeling, and theoretical perspective. *INFORMS, 2021.* (Invited talk)

Statistical efficiency of parameter estimation in generalized contaminated models. *International Indian Statistical Association (IISA) Conference, 2021.* (Invited talk)

Statistical efficiency of parameter estimation in generalized contaminated models. *International Chinese Statistical Association (ICSA), Xi'an University, Xi'an, China, 2021.* (Invited talk)

Statistical efficiency of parameter estimation in generalized contaminated models. *International Conference on Econometrics and Statistics (EcoSta), Yonsei University, Seoul, South Korea, 2021.* (Invited talk)

Convergence rates for Gaussian mixtures of experts. *International Indian Statistical Association (IISA) Conference, University of Illinois at Chicago, 2020.* (Invited talk - Canceled)

On efficient optimal transport: an analysis of greedy and accelerated mirror descent algorithms. *International Conference on Machine Learning (ICML), Long Beach, CA, 2019.* (Oral presentation)

Singularity structures of mixture models: Statistical and computational perspective. *Joint Statistical Meetings (JSM), August, 2019, Denver, Colorado.* (Invited talk)

Singularity structures of parameter estimation in finite mixtures of distributions. *Joint Stanford/Berkeley Applied Math Event, November 2018, University of California, Berkeley.* (Invited talk)

Singularity structure of parameter space and posterior contraction in finite mixture models. *Joint Statistical Meetings (JSM), August, 2017, Baltimore, Maryland.* (Invited talk)

Singularity structures and parameter estimation behavior in finite mixtures of distributions. *Nonparametric Statistics Workshop: Integration of Theory, Methods, and Applications, October, 2016, Ann Arbor, Michigan.* (Poster)

Singularity structures and impacts on parameter estimation in finite mixtures of distributions. *Shannon Centennial Symposium, September, 2016, Ann Arbor, Michigan.* (Poster)

Singularity structures and parameter estimation behavior in finite mixtures of distributions. *Joint Statistical Meetings (JSM), August, 2016, Chicago, Illinois.* (Contributed talk)

Singularity structures and parameter estimation behavior in finite mixtures of distributions. *Conference on Statistical Learning and Data Science, June, 2016, University of North Carolina at Chapel Hill.* (Poster)

Singularity structures and parameter estimation behavior in finite mixtures of distributions. *Statistical Machine Learning Student Workshop, June, 2016, University of Michigan, Ann Arbor.* (Contributed talk)

Singularity structures and parameter estimation in mixtures of skew normal distributions. *Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS), March, 2016, Ann Arbor, MI.* (Poster)

Weak Identifiability and convergence rates of parameter estimation in over-fitted Gaussian mixture

models. *Student Seminar, January, 2016, Department of Statistics, University of Michigan, Ann Arbor.* (Invited talk)

Intrinsic difficulties for the inference of mixing measures in finite mixtures of univariate skew normal distributions. *From Industrial Statistics to Data Science, October, 2015, Ann Arbor, Michigan.* (Poster)

Posterior concentration of mixing parameters in some weakly identifiable finite mixture models. *10th Conference on Bayesian Nonparametrics, June, 2015, Raleigh, North Carolina.* (Poster)

Weak identifiability and optimal rate of convergence of mixing measures in over-fitted Gaussian mixture model. *NSF Conference - Statistics for Complex Systems, June, 2015, Madison, Wisconsin.* (Poster)

Weak identifiability and optimal rate of convergence of mixing measures in over-fitted Gaussian mixture model. *Statistical Machine Learning Student Workshop, June, 2015, University of Michigan, Ann Arbor.* (Contributed talk)

Optimal convergence rate of parameter estimation in over-fitted finite Gaussian mixture model. *Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS), 2015, Ann Arbor, MI.* (Poster)

Identifiability and convergence rate of parameter estimators in exact-fitted finite mixture models. *Statistical Machine Learning Student Workshop, June, 2014, University of Michigan, Ann Arbor.* (Contributed talk)

Graduate supervision & committee member

Phd supervision

- Fanqi Yan, Phd Student in Department of Computer Science
- Khang Nguyen, Phd Student in Department of Electrical and Computer Engineering (Co-mentored with Constantine Caramanis)
- Khai Nguyen, Phd Student in Department of Statistics and Data Sciences
- Jincheng Cao, Phd Student in Department of Operations Research and Industrial Engineering
- Xizewen Han, Phd Student in Department of Statistics and Data Sciences (Co-mentored with Mingyuan Zhou)
- Fuheng Cui, Phd Student in Department of Statistics and Data Sciences

Phd committee member

- Jiacheng Zhuo, Phd Student in the Department of Computer Science
- Xizewen Han, Phd Student in the Department of Statistics and Data Sciences
- Korawat Tanwisuth, Phd Student in Department of Statistics and Data Sciences

Professional services

Journal reviewing:

- Annals of Statistics (5 papers)
- Journal of the American Statistical Association (1 paper)
- Bernoulli (1 paper)
- Electronic Journal of Statistics (3 papers)
- Journal of Machine Learning Research (8 papers)
- SIAM Journal on Mathematics of Data Science (1 paper)

- Statistical Science (1 paper)
- Mathematical Statistics and Learning (1 paper)
- Mathematical Programming (1 paper)
- Annals of Applied Probability (1 paper)
- Mathematics of Operations Research (1 paper)
- IEEE Transactions on Information Theory (1 paper)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (1 paper)
- IEEE Transactions on Signal Processing (1 paper)
- Journal of Combinatorial Optimization (1 paper)
- Journal of Business and Economic Statistics (1 paper)
- IEEE Letters to Control System Society (1 paper)
- Pattern Recognition (1 paper)
- Entropy (2 papers)
- PLOS ONE (1 paper)
- Stat (1 paper)
- Algorithms (1 paper)

Conference reviewing/ Program Committee:

- International Conference on Machine Learning (ICML), 2015, 2017, 2018, 2019, 2021
- Neural Information Processing Systems (NIPS), 2015, 2017, 2020, 2021
- International Conference on Learning Representations (ICLR), 2021, 2022
- International Conference on Artificial Intelligence and Statistics (AISTATS), 2021
- Conference on Learning Theory (COLT), 2021
- Conference on Uncertainty in Artificial Intelligence (UAI), 2021

Professional Committees Member:

- ASA SLDS Student Paper Award Committee, 2021

Other services:

- Nonparametric Statistics Workshop: Integration of Theory, Methods, and Applications, October 2016, Ann Arbor, Michigan, *Student Assistant*
- Extreme Value Analsyis (EVA) conference, June 2015, Ann Arbor, Michigan, *Student Assistant*

MEMBERSHIP

American Statistical Association

International Society for Bayesian Analysis