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Education

- PhD in Statistics, Pontificia Universidad Católica de Chile, Chile, 2012.
  - Thesis: "Theory and Applications of Dependent Nonparametric Bayesian Models for Bounded and Unbounded Responses."
  - Advisor: Fernando Quintana – Co-advisor: Alejandro Jara.
- Bachelor's Degree in Statistics, Universidad del Valle, Colombia, 2006.

Research

Published Papers

- Barrientos, A.F., Jara, A., Wehrhahn, C., (2017). Posterior convergence rate of a class of Dirichlet process mixture model for compositional data. *Statistics and Probability Letters*, 120, 45-51.
- Barrientos, A.F., Jara, A., Quintana, F.A. (2016). Fully nonparametric regression for bounded data using dependent Bernstein polynomials. *To appear in Journal of the American Statistical Association.*
- Barrientos, A.F., Jara, A., Quintana, F.A. (2015). Bayesian density estimation for compositional data using random Bernstein polynomials. *Journal of Statistical Planning and Inference*, 166, 116-125.
- González, J., Barrientos, A.F., Quintana, F.A. (2015) Bayesian nonparametric estimation of test equating functions with covariates. *Computational Statistics & Data Analysis*, 89, 222-244.
- Barrientos, A.F., Jara, A., Quintana, F.A. (2012). On the support of MacEachern's dependent Dirichlet processes and extensions. *Bayesian Analysis*, 7(2): 277–310.
- Barrientos, A.F., Olaya, J., González, V. (2007). A Spline Model for Electricity Demand Forecasting. *Revista Colombiana de Estadística*, 30(2): 187–202.

Book Chapters and Proceedings

- Chen, Y., Machanavajjhala, A., Reiter, J.P., Barrientos, A.F. (2016) Differentially private regression diagnostics. *IEEE International Conference on Data Mining.*
- González, J, Barrientos, A.F., Quintana, F.A. (2015). A dependent Bayesian nonparametric model for test equating. *In Millsap, R.E., Bolt, D.M., van der Ark, L.A., Wang, W.-C. (Eds.) Quantitative Psychology Research*, 213–266. Springer.
- Jara, A., Barrientos, A.F. (2014). Bayesian nonparametric approaches for the analysis of compositional data based on Bernstein polynomials. *Proceedings of the 29th International Workshop on Statistical Modelling, Göttingen, Germany July 2014.*

Research and Academic Experience

- Statistical Assistant, School of Engineering of Natural Resources and Environment, Universidad del Valle, Colombia, May 2003 – December 2007.

- Instructor, School of Industrial Engineering and Statistics, Universidad del Valle, Colombia, July 2006 – February 2008.
- Teaching Assistant, Pontificia Universidad Católica de Chile,

    EPG3601, Advanced Statistical Computing, March – July 2010 and 2012.

    EPG3343, Statistical Analysis with Missing Data, March – July 2011.

    EPG3346, Bayesian Nonparametrics Methods, August–December 2011.

- Research Fellow, Pontificia Universidad Católica de Chile, October 2012 – October 2014.
- Visiting Research Fellow, University of Texas at Austin, November–December 2014.
- Postdoctoral Associate, Duke University, March 2015 – Present.

Presentations

- Differential private sign and significance of regression coefficients, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, USA, September 2016.
- Bayesian nonparametric approaches for the analysis of compositional data based on Bernstein polynomials, Join Statistical Meeting, USA, August 2015.
- Bayesian goodness-of-fit testing for density regression, 10th Workshop in Bayesian Nonparametrics, USA, June 2015.
- Predictor-Dependent Inequality Modeling, Departmental Seminar, University of Texas at Austin, USA, October 2014.
- Bayesian density estimation for compositional data using random Bernstein polynomials, XL Jornadas Nacionales de Estadística, Chile, October 2013.
- Bayesian density estimation for compositional data using random Bernstein polynomials, Departmental Seminar, Collegio Carlo Alberto, Italy, July 2013.
- Bayesian density estimation for compositional data using random Bernstein polynomials, 9th workshop in Bayesian nonparametrics, The Netherlands, June 2013.
- On the support of MacEachern's dependent Dirichlet processes, III Latin American Meeting on Bayesian Statistics and XXXVIII National Meeting of Statistics, Chile, October 2011.
- On the support of MacEachern's dependent Dirichlet processes, 8th Workshop on Bayesian Nonparametrics, Mexico, June 2011.
- Dependent Bernstein polynomials for bounded density regression,

    IX Congreso Latinoamerica de Sociedades de Estadística, Chile, October 2010.

    IX Seminario Chileno de Estadística Bayesiana, Universidad de Talca, Chile, January 2011.

Referee Experience

Biometrical Journal, Bayesian Analysis, Canadian Journal of Statistics, Computational Statistics & Data Analysis, Journal of Statistical Software, Electronic Journal of Statistics, Journal of Official Statistics, and Journal of Statistical Planning and Inference.

Honors, Awards, and Fellowships

- Finalist for Savage Award, Theory & Methods, for best Bayesian dissertation, 2013.
- FONDECYT Fellowship No. 3130400, Chile, 2012.

- Maximum Distinction, PhD in Statistics, Pontificia Universidad Católica de Chile, Chile, 2012.
- "Bayesianos SOCHE" Young Investigator Award, Bayesian Section of the Chilean Society of Statistics, 2010.
- CONICYT Fellowship for Latinoamerican Doctoral Students, Chile, 2008.
- Best Undergraduate Student, Universidad del Valle, 2006.

Direction of Research

Claudia Wehrhahn, PhD Thesis, co-advised with Alejandro Jara, 2013 to 2016 (Postdoctoral Associate, Departamento de Probabilidad y Estadística, IIMAS, UNAM, México.).