Javier Zapata

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EDUCATION

University of California, Santa Barbara   Santa Barbara, CA
PhD(c) in Statistics and Applied Probability (GPA: 3.95/4.00)   2015-Current
Master of Arts in Statistics - Mathematical Statistics Specialization   2015-2017
Advisor: Professor Sang-Yun Oh

University of Chile   Santiago, CHILE
Industrial Engineer (Final Grade: 7.0/7.0)   2005-2011
& Bachelor of Engineering Science in Industrial Engineering

Colegio Academia de Humanidades   Santiago, CHILE
High School Diploma   2001-2004

DOCTORAL RESEARCH

- *High-Dimensional Functional Graphical Models for Stochastic Systems:* Developing a method to learn the graph of conditional independencies for a multivariate Gaussian process. This method has applications in many domains including functional brain maps, gene regulatory networks, sensor networks and image segmentation. Collaboration with Professors S. Oh and A. Petersen at UC Santa Barbara.

- Developing a functional brain connectivity inference method using high-dimensional fMRI data from the Human Connectome Project. Collaboration with Professors S. Oh and A. Petersen at UC Santa Barbara.

JOURNAL AND CONFERENCE PAPERS

- A. Petersen, S. Oh, and J. Zapata. "Functional Graphical Models for Partially Separable Multivariate Gaussian Processes". *Work in Progress, 2018.*

- S. Oh, J. Zapata, A. Petersen. "Gaussian Process Learning of Functional Brain Maps from fMRI Data". *Work in Progress, 2018.*

- A. Cifuentes, V. Charlin and J.Zapata. "Color Premiums in Art Markets: An Image Segmentation Approach". *Work in Progress, 2018.*

- J. Zapata and A. Cifuentes. "On the Stability of Synthetic CDO Credit Ratings". *International Finance, 2016.*

PROFESSIONAL EXPERIENCE

University of California, Santa Barbara   Santa Barbara, CA
R\Shiny Web Developer   August 2018 - Current
- Developing an open source repository of interactive web-based visualizations for probability and statistics courses.

SimpliRoute   Mountain View, CA
Data Scientist - Intern   July 2017 - September 2017
- Improved the company's analytics technologies by developing a predictive model of the logistics service time of the clients integrating mobile GPS and delivery planning datasets.

Ministry of Finance, Sovereign Wealth Funds   Santiago, CHILE
International Finance Analyst   2012 - 2013
- Served as research assistant for the financial investment committee responsible for advising the Minister of Finance regarding the funds' investment policy.
- Improved the investment policy analytics of the sovereign wealth funds by developing an asset allocation model combining portfolio optimization and a vector autoregressive model.

- Enhanced productivity and reduced operational risk by developing an information database system for report automation and data analysis.

Center of Finance, University of Chile   Santiago,CHILE
Research Scientist, Advisor: Professor Arturo Cifuentes   2011
- Conducted a research dissertation titled *"Stability Analysis of Credit Ratings Applied to Synthetic CDOs"*. The study unveils the lack of accuracy of the synthetic CDO credit ratings during the 2007-08 subprime crisis. The study estimated distributions of different credit risk metrics via Monte Carlo simulations of Bayesian hierarchical models.
- Implemented a hedonic regression model for real estate valuation in the Chilean housing market.

TEACHING EXPERIENCE	**University of California, Santa Barbara**	Santa Barbara, CA

Teaching Associate   July 2018 - September 2018
- Instructor for the class PSTAT 5A - Statistics which covers: random variables, sampling distribution, estimation, hypothesis testing, correlation and regression.

Teaching Assistant   2015-Current
- Varied upper division and graduate courses including: Stochastic Processes, Apache Spark Programming, Time Series and Statistical Machine Learning.

HONORS & AWARDS

University of Chile   Santiago, CHILE
Industrial Engineering Department, School of Engineering
- Summa Cum Laude Graduated & Ranked 1st in the class of 2012   2012
- Best Heuristic Algorithm of the Operations Engineering Class   Fall 2010
- Best Teaching Assistant Award   2010
- Dean's List   2006 - 2011

OTHER POSITIONS & ACTIVITIES

University of California, Santa Barbara   Santa Barbara, CA
Graduate Student Representative   2017-Current
- Coordinated recruiting and social events for the Department of Statistics.

PROGRAMMING SKILLS

Scientific Computing: R, Python, Matlab, C/C++, Java
Cluster Computing: Apache Spark
Databases: SQL, PostgresSQL
Web Development: R\Shiny

LANGUAGES

English: Fluent   **Spanish:** Native Speaker

INTERESTS

Listening to music, hiking, cooking and dancing salsa.