

# Miguel Biron Lattes

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## Education

2018–present **Ph.D. Statistics**, *University of British Columbia*, Vancouver, BC.

2014–2015 **M.A. Statistics**, *Columbia University*, New York, NY.

project: Analyzing call center data using self-exciting point processes

2006–2012 **B.Eng.Sc. Industrial Engineering**, *University of Chile*, Santiago, Chile.

advisors: José Miguel Cruz, Cristián Bravo

note: Considers also a professional degree in Industrial Engineering

## Experience

2015–2018 **Financial Stability Analyst**, *Superintendency of Banks and Financial Institutions*, Santiago, Chile.

I spent most of my time producing monthly reports with insights regarding potential threats to the financial stability of the banking system. This required processing massive databases with account-level data collected from banks (using SQL) for then analyzing them (using R). I also conducted applied research on the topic of financial stability. Some notable projects:

- Developing a method for Bayesian inference of default correlations by leveraging probability of default (PD) models
- Building a systemic risk indicator for retail loans using account-level and macroeconomic data
- Comparing the performance of statistical learning models for credit scoring
- Estimating the joint distribution of implicit bank PDs from market transactions of time deposits

2011–2014 **Financial Engineering Analyst**, *CL Group Financial Services Consulting*, Santiago, Chile.

I was the lead analyst in a wide array of projects involving quantitative modelling of market and credit risk. Clients were financial institutions, mostly banks. Some notable projects were:

- Quantifying counterparty credit risk exposure of an interest rate swaps portfolio
- Developing the market risk framework for a Central Counterparty of OTC derivatives
- Assessing the credit risk exposure of a government-backed portfolio of student loans
- Constructing PD models at many banks for credit risk management

## Publications

2017 Biron, M., & Medina, V. *Leveraging Probability of Default Models for Bayesian Inference of Default Correlations*. Manuscript submitted for publication.

2014 Biron, M., & Bravo, C. On the discriminative power of credit scoring systems trained on independent samples. In *Data Analysis, Machine Learning and Knowledge Discovery* (pp. 247-254). Springer International Publishing.

## Technical Experience

### Proficient With

languages R, SQL,  $\text{\LaTeX}$ , R Markdown  
technologies Oracle, Sybase IQ, Microsoft SQL Server, Microsoft Excel

### Have Experience With

languages Stan, Python, MATLAB, Java, Visual Basic  
technologies Git, Jupyter Notebooks

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## Relevant Coursework

### Columbia University

statistics Data Mining, Bayesian Statistics, Non-parametric Statistics, Stochastic Processes for Finance, Multivariate Statistical Inference

### University of Chile

industrial Introduction to Data Mining, Operations Research, Financial Engineering, Statistical  
engineering Methods for Economics

computer Algorithms and Data Structures, Computing I (using Java)  
science

mathematics Probability, Statistics, Linear Algebra, Optimization, Numerical Methods (using MATLAB),  
Multivariate Calculus

physics Dynamical Systems, Statistical Physics

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## Honors

dean's list From 2006 to 2010 at University of Chile

scholarships Becas Chile 2014 scholarship for graduate studies abroad (ranked 42 out of 408 recipients  
and out of 1,384 valid applications)