

FEDERICO (RICO) BUMBACA

Leeds School of Business, University of Colorado Boulder
995 Regent Drive, UCB 419, Boulder, CO 80309, USA
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EMPLOYMENT

Assistant Professor of Marketing, Leeds School of Business, University of Colorado Boulder 2018 - current

EDUCATION

Ph.D. in Marketing

2018

The Paul Merage School of Business, University of California – Irvine

Dissertation: Big Data Methods and Applications in Marketing

Co-Chairs: Peter E. Rossi (informal) at UCLA and Imran Currim at UCI

M.S. in Operations Research, Industrial Engineering, Virginia Polytechnic Institute

MBA in Management, Sloan School of Management, Massachusetts Institute of Technology

Thesis: A Model of Discrete Choice using Probability Density Estimation

Advisor: John D.C. Little

M.S. and B.S. in Electrical Engineering, Engineering Science, University of Toronto

MS thesis area: Artificial Intelligence

RESEARCH INTERESTS

Topics: Hierarchical Models in a Big Data Environment, Target Marketing, Loyalty Programs

Methods: Big Data Methods, Distributed Computing, Nonparametric Methods, Bayesian Econometrics, Structural Econometrics, Scientific Visualization

PUBLICATIONS

- Bumbaca, Federico (Rico), Sanjog Misra, and Peter E. Rossi. 2020. Scalable Target Marketing: Distributed Markov Chain Monte Carlo for Bayesian Hierarchical Models. *Journal of Marketing Research*. 2020, Vol. 57(6) 999-1018. <https://doi.org/10.1177/0022243720952410>
 - Lead article
 - CU Boulder Leeds: Kahle Family Faculty Research Excellence Award (2021)
- Bumbaca, Federico (Rico) and Jackson Novak (2025), CRAN R Package: scalablebayesm 1.0

WORKING PAPERS AND WORK-IN-PROGRESS

- Bumbaca, Federico (Rico). Identifying High-Value Customer Microsegments at Scale (SSRN)
- Bumbaca, Federico (Rico). Scalable Inference: A Subsampling Approach
- Shriver, Scott, Olivier Toubia, Federico (Rico) Bumbaca. Commitment Devices: Demand Estimation and Optimal Pricing
- Bumbaca, Federico (Rico). Scalable Nonparametric Density Estimation
- Bumbaca, Federico (Rico). Scalable Supervised Machine Learning for Target Marketing

PUBLICATIONS (ARTIFICIAL INTELLIGENCE)

- Bumbaca, Federico. 1988. Intelligent Computer-Assisted Instruction: A Theoretical Framework, *International Journal of Man-Machine Studies* **29**(3), 227-255
- Bumbaca, Federico and K.C. Smith. 1988. A Practical Approach to Image Restoration for Computer Vision, *Computer Vision, Graphics, and Image Processing*, **42**(2), 220-233
- Bumbaca, Federico and K.C. Smith. 1987. Design and Implementation of a Color Vision Model for Computer Vision Applications, *Computer Vision, Graphics, and Image Processing*, **39**(2), 226-245
- Bumbaca, Federico, Francois Blais, and Marc Rioux. 1986. Real-time Correction of Three Dimensional Nonlinearities for a Laser Rangefinder. *Optical Engineering*, **25**(4), 561-565

TEACHING EXPERIENCE

University of Colorado Boulder, Leeds School of Business

Instructor, Data and Decisions: MBA core course* 2019 – 2025

*Nominated for the Joseph L. Frascona Teaching Excellence Award in 2021

*Awarded the Kolb Teaching Innovation Award for “flipping the classroom” in 2020

Instructor, Marketing Research and Analytics: undergraduate juniors 2018 – 2025

University of California Irvine, Paul Merage School of Business

Instructor, Introduction to Marketing: undergraduate juniors, one section 2016

TEACHING ASSISTANTSHIPS

University of California Irvine, The Paul Merage School of Business

Marketing Management, MBA 2012 – 2017

Business Statistics, MBA 2017

Product Marketing: upper division undergraduates 2016

Marketing Communications: upper division undergraduates 2015

Brand Management: upper division undergraduates 2014

INVITED TALKS

- Stanford University, Graduate School of Business, April 4, 2018
- San Francisco State University, College of Business, November 6, 2017
- University College London, School of Management, October 17, 2017
- University of Rochester, Simon Business School, October 13, 2017
- University of Notre Dame, Mendoza College of Business, October 6, 2017
- Penn State, Smeal College of Business, October 2, 2017
- Northwestern University, Kellogg School of Management, September 28, 2017
- University of Colorado Boulder, Leeds School of Business, September 11, 2017
- University of Texas Austin, McCombs School of Business, September 8, 2017

PRESENTATIONS

- Scalable Target Marketing with Big Data. *Leeds Business Power Breakfast December 2021*

- Characterizing the Distribution of Heterogeneity: Distributed Markov Chain Monte Carlo for Hierarchical Models. *Marketing Science Conference June 2021, Leeds Summer Seminar Series August 2021*
- Characterizing Loyalty Program Members: A Big Data Approach. *Marketing Science Conference June 2017, UC Irvine brown bag June 2017, UC Irvine poster May 2017*
- Distributed Markov Chain Monte Carlo for Bayesian Hierarchical Models. *Marketing Science Conference June 2015, San Diego Marketing Camp April 2016*
- What's the Big Deal about Big Data in Marketing? *UC Irvine poster April 2016*
- Big Data in Consumer Choice: Scalable Bayesian Hierarchical Model Estimation. *UC Irvine brown bag and poster April 2015*
- Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *at UC Irvine brown bag January 2014*
- The Charles River Dialogs or Why Bother with the Logit? MIT Marketing Center Working Paper 89-6. Presented by John D.C. Little at *TIMS/ORSJ Conference, July 1989*

CONFERENCES AND WORKSHOPS

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| Quantitative Marketing and Structural Econometrics Workshop, Washington University | July 2017 |
| INFORMS Marketing Science, University of Southern California | June 2017 |
| San Diego Supercomputer Center High Performance Computing Workshop, UC – San Diego | August 2016 |
| Sheth Doctoral Consortium, University of Notre Dame | May 2016 |
| San Diego Marketing Camp, California State University – San Diego | April 2016 |
| INFORMS Marketing Science, University of Maryland | June 2015 |
| UC/USC Colloquium, UC Riverside | May 2015 |
| Big Data Marketing Analytics, University of Chicago | October 2014 |
| Quantitative Marketing and Economics, University of Southern California | October 2014 |

SERVICE

University of Colorado, Leeds School of Business

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| Distinguished Speaker Series (DSS) and Marketing Research Seminar Series (MRSS) | 2019 – 2022 |
| Mentor, New Teacher Teaching Mentors Program | 2019 – 2022 |
| Mentor, Diverse Scholars Faculty Mentoring Program | 2018 – 2022 |
| New Assistant Professor Program, Faculty Teaching Excellence Program | 2018 – 2020 |

INDUSTRY EXPERIENCE

Mojo Networks

Managing Director, International Channels
Vice President, Asia Pacific and Japan (Hong Kong)

Check Point Software, Zonelabs Division

Director, Worldwide Business Development
Director, Asia Pacific, Japan, and Latin America

Peakstone Corporation

Vice President, Business Development

Alcatel-Lucent, VitalSoft Division

Director, Business Development

Visix Software

Vice President, Asia Pacific
Director, Western Region of USA

Fair Isaac Corporation, Blaze Software Division

Director & General Manager, Japan (Tokyo, Japan)
Director, Marketing, Sales and Strategic Alliances

National Research Council, Laboratory for Intelligent Systems

Research Officer – Artificial Intelligence (Ottawa, Canada)

COMPUTER SKILLS

Mathematical and Statistical Software: R, SAS, Matlab

Visualization Software: R, VisIt

Programming Languages: C/C++, SQL

High Performance Computing