

CARLOS FERNÁNDEZ-LORÍA

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ACADEMIC APPOINTMENT

HKUST Business School, Hong Kong
Assistant Professor of Information Systems

2021 – Present

EDUCATION

New York University, Stern School of Business, New York

2021

Ph.D. in Information Systems

Herman E. Krooss Award for the best dissertation at NYU Stern

Finalist, George B. Dantzig Dissertation Award (INFORMS)

Doctoral Advisor: Professor Foster Provost

INCAE Business School, Costa Rica

2015

Master of Business Administration, with high honors

Concentration: Technology and Industrial Management

Instituto Tecnológico de Costa Rica, Costa Rica

2011

BS in Computer Science, with high honors

PUBLISHED AND ACCEPTED PAPERS

Observational vs. Experimental Data When Making Automated Decisions Using Machine Learning (w. Provost, F.). *INFORMS Journal on Data Science* (2025).

A Comparison of Methods for Treatment Assignment with an Application to Playlist Generation (w. Provost, F., Anderton, J., Carterette, B., & Chandar, P.). *Information Systems Research*, 34(2), 786-803 (2023).

Evolution of Referrals Over Customers' Life Cycle: Evidence from a Ride-Sharing Platform (w. Cohen, M. and Ghose, A.). *Information Systems Research*, 34(2), 698-720 (2023).

Causal Classification: Treatment Effect vs. Outcome Prediction (w. Provost, F.). *Journal of Machine Learning Research*, 23(59), 1-35 (2022).

Causal Decision Making and Causal Effect Estimation Are Not the Same... and Why It Matters (w. Provost, F.). *INFORMS Journal on Data Science*, 1(1), 4-16 (2022).

Explaining Data-Driven Decisions made by AI Systems: The Counterfactual Approach (Provost, F., and Han, X.). *MIS Quarterly*, 46(3), 1635-1660 (2022).

UNDER REVIEW AND WORKING PAPERS

Honesty in Causal Forests: When It Helps and When It Hurts (w. Hou, Y.). Major revision at **Information Systems Research**.

Causal Post-Processing of Predictive Models (w. Hou, Y., Provost, F., Hill, J.). Under review.

Policy Learning for Payment Compliance: Out-of Time Evidence on the Value-and Limits-of ML Targeting at a Brazilian Water Utility (w. Araujo, F., Dutra, J., Hagmann, D., & Mazar, N.). Under review.

Causal Ordering Without Effect Estimation: A Framework for Using Proxies in Treatment Prioritization (w. Loría J.). In preparation for journal submission.

Causal Inference Isn't Special: Why It's Just Another Prediction Problem. Opinion piece.

A New Perspective on the Confusion Matrix (w. Provost, F.). Work in progress.

PEER-REVIEWED CONFERENCE PRESENTATIONS

Honesty in Causal Forests: When It Helps and When It Hurts

- *Symposium on Statistical Challenges in Electronic Commerce Research (SCECR) 2025*

Causal Ordering Without Effect Estimation

- *Workshop on Information Systems and Economics (WISE) 2024.*
- *Causal Data Science Meeting 2023*
- *Symposium on Statistical Challenges in Electronic Commerce Research (SCECR) 2023*

Causal Fine-Tuning and Effect Calibration of Non-Causal Predictive Models.

- *Symposium on Statistical Challenges in Electronic Commerce Research (SCECR) 2024*
- *International Conference in Information System (ICIS) 2020*
- *INFORMS Workshop on Data Mining and Decision Analytics 2020*

Causal Decision Making and Causal Effect Estimation Are Not the Same

- *INFORMS Dantzig Dissertation Competition 2021. Finalist.*
- *MIT Conference on Digital Experimentation (CODE) 2021, poster session*

Observational vs Experimental Data When Making Automatic Decisions

- *MIT Conference on Digital Experimentation (CODE) 2020*
- *Symposium on Statistical Challenges in Electronic Commerce Research (SCECR) 2020*
- *International Conference on Computational Social Science (IC2S2) 2020*
- *INFORMS Workshop on Data Mining and Decision Analytics 2019*

- *Workshop on Information Technologies and Systems (WITS) 2019*

A Comparison of Methods for Treatment Assignment

- *Workshop on Information Systems and Economics (WISE) 2020. Runner-up for best student paper award.*
- *MIT Conference on Digital Experimentation (CODE) 2020, poster session*

Counterfactual Explanations for Data-Driven Decisions

- *International Conference in Information System (ICIS) 2019*

Causal Classification

- *Transatlantic Doctoral Conference (TADC) 2018, London Business School*

GRANTS

Bridge Gap Fund, Office of Knowledge Transfer (HK\$ 150,000)	2022
Early Career Scheme, Research Grants Council (HK\$ 510,000)	2022

AWARDS

Finalist for George B. Dantzig Dissertation Award (INFORMS)	2021
Herman E. Krooss Award, for presenting an outstanding doctoral dissertation	2021
Runner-up for Best Student Paper Award, Workshop on IS and Economics (WISE)	2020
Doctoral Fellowship, Fubon Center for Technology, Business, and Innovation	2020
<i>Best Instructor</i> in the executive MSBA Program at INCAE Business School	2020
1 st finalist, <i>Best Management Consulting Practice</i> , at INCAE Business School	2014

INVITED TALKS

Goethe University Frankfurt	2025
Growth Acceleration Partners	2024
Ludwig Maximilian University of Munich	2024
The Hong Kong Institute of Human Resource Management	2023
INCAE Business School	2023
Universidad del Valle, Bolivia	2022
University of Hong Kong, Innovation and Information Management	2022
Arena (https://www.arena-ai.com/), New York, NY	2022
University of Maryland, Decision, Operations & Information Technologies	2022
INFORMS Annual Meeting	2019-2021
Gympass, Data Science Group, New York, NY	2020
INSEAD, Decision Sciences Department	2020
Spotify, Research & Development Group, New York, NY	2020
AT&T, Graduate Student Symposium, New York, NY	2019

SERVICE

Associate Editor, International Conference on Information Systems (ICIS) 2022
Associate Editor, Pacific Asia Conference on Information Systems (PACIS) 2022-2023

Founding member of the Tsinghua-HKUST seminar on Digital Economy Expert Perspectives (DEEP). Visit <https://www.deep.hkust.edu.hk/> for more information.

Reviewer for: Management Science, MIS Quarterly, Information Systems Research, Journal of Machine Learning Research (JMLR), INFORMS Journal on Data Science (IJDS), International Conference on Information Systems (ICIS), and Conference on Information Systems and Technology (CIST).

TEACHING EXPERIENCE

HKUST, HKUST Business School, Hong Kong 2021-present
Instructor for *Data Mining for Business Analytics*, at the undergrad level
Instructor for *Big Data Analytics*, at the MBA and MSc. level
Instructor for *AI And Data-Driven Decision Making*, at the executive education level.

New York University, Stern School of Business, New York, NY 2020
Instructor for *Data Mining for Business Analytics*, at the undergrad level

INCAE Business School, Costa Rica 2019
Instructor for *Predictive Analytics*, at the executive MSBA level
Selected as *Best Instructor* in the MSBA program by the students

New York University, Stern School of Business, New York, NY 2017-2019
Co-instructor for *Data Mining for Business Analytics*, at the MBA level.
TA for *Data Mining for Business Analytics*, at the MBA level.
TA for *Introduction to Business Analytics*, at the executive MSBA level.
TA for *Social Media and Digital Marketing*, at the MBA and executive MSBA level.

INCAE Business School, Alajuela, Costa Rica 2015-2016
Instructor for MBA pre-term refresher courses in finance, accounting, and statistics.

CASE STUDIES FOR TEACHING

I created several short case studies for teaching data science to business students in practical settings; 13 of them are available for download on my website.

Fernández, C.M., Ketelhöhn, N., and Quirós, C.E. 2018. “ERNST & YOUNG CENTRAL AMERICA (EYCA)” *INCAE Cases*, INCAE. Case study about the expansion challenges that EY faced in Central America. It is used in Competitive Strategy courses at INCAE.

Retana, G. and Fernández, C. 2016. “Mossack Fonseca: Panama Papers.” *INCAE Cases*, INCAE. Case study about the IT security issues that caused the Panama Papers leak. It is used in IT Management courses at INCAE.

Fernández, C.M., Torres, J.H., and Alfaro, L.N. 2016. “FUNDESER: De ONG a Institución Financiera no Bancaria.” Case study about the challenges that a microfinance institution faces after the financial crisis of 2008. It is used in Finance at INCAE.

Zúñiga, R. and Fernández, C. 2016. “Tigo El Salvador.” *INCAE Cases*, INCAE. Case study about a Telecom firm that is reframing its strategy to expand its mobile data business. It is used in Operations Management (executive) courses at INCAE.

Retana, G. and Fernández, C. 2015. “Grupo ReRe.” *INCAE Cases*, INCAE. Case study series about the challenges that Latin American firms face when digitizing their business. The series is used in IT Management courses at INCAE.

Marín, N. and Fernández, C. 2015. “Texas Industrial Paint Co.” *INCAE Cases*, INCAE. Case study about a medium firm in the paint industry that wants to expand by acquiring a smaller firm. It is used in Finance and M&A courses at INCAE.

OTHER PROFESSIONAL EXPERIENCE

INCAE Business School (education), Researcher 2015-2016

■ Co-authored case studies for the following MBA courses: IT Management, Operations Management, Mergers & Acquisitions, Finance, and Business Strategy.

Banesco (banking), Consultant 2014

■ Led the consultancy team responsible for the diagnosis and redesign of the business intelligence platform of Banesco, sixth largest bank in Panama at the time.

Growth Acceleration Partners (software), Software Developer 2012-2013

■ Participated in the implementation of Performance360, a software platform used by Nissan Motor Company to measure and optimize their customer service.

Fair Play Labs (videogames), Software Developer 2012

■ Participated in the implementation of Disney game *Doc McStuffins: Time For Your Check Up!* (Top 10 paid apps for iPad), *Farmville* mobile (Top 25 most popular game in Facebook), and *Journey to Real Madrid* (game for Real Madrid soccer club).

Procter & Gamble (consumer goods), Intern 2011

■ Led the development of a software tool for report automation used across several information security departments in Latin America.