Jörn Boehnke

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ACADEMIC APPOINTMENTS

2019-present Assistant Professor of Marketing and Business Analytics. Graduate School of Management, University of California, Davis.

2019-2024 Associate Research Fellow. Center of Mathematical Sciences and Applications, Harvard University.

2017-2019 Research Fellow. Labor and Worklife Program, Harvard Law School.

2015-2019 Postdoctoral Research Fellow. Center of Mathematical Sciences and Applications, Harvard University.

EDUCATION

2015 Ph.D., Economics, University of Chicago.

2012 M.A., Economics, University of Chicago.

2008 Diplom, Mathematics, Leipzig University. *Summa cum laude.*

2008 Diplom, Physics, Leipzig University. *Summa cum laude.*

RESEARCH INTERESTS

Online markets and digital platforms; pricing, consumer search, and price dispersion; large language models and machine learning; economic measurement from unstructured data.

Fields: Empirical industrial organization; quantitative marketing.

RESEARCH

Publications

Aaron Bodoh-Creed, Jörn Boehnke, and Brent Hickman. Market Frictions Versus Seller Signaling: Explaining Deviations from the Law of One Price. **Conditionally accepted at *Quantitative Marketing and Economics***.

Jörn Boehnke, Pantelis Loupos, and Ying Gu (2024). Social drug dealing: how peer-to-peer fintech platforms have transformed illicit drug markets. ***Annals of Operations Research***, 335(2), 645-663.

Jörn Boehnke and Victor Gay (2022). The Missing Men: World War I and Female Labor Force Participation. ***Journal of Human Resources***, 57(4), 1209-1241.

Alberto Bracci, Jörn Boehnke, Abeer ElBahrawy, Nicola Perra, Alexander Teytelboym, and Andrea Baronchelli (2022). Macroscopic properties of buyer-seller networks in online marketplaces. ***PNAS Nexus***, 1(4), pgac201.

Ashwin Aravindakshan, Jörn Boehnke, Ehsan Gholami, and Ashutosh Nayak (2022). The impact of mask-wearing in mitigating the spread of COVID-19 during the early phases of the pandemic. ***PLOS Global Public Health***, 2(9), e0000954.

Aaron Bodoh-Creed, Jörn Boehnke, and Brent Hickman (2021). How Efficient are Decentralized Auction Platforms? ***The Review of Economic Studies***, 88(1), 91-125.

Ashwin Aravindakshan, Jörn Boehnke, Ehsan Gholami, and Ashutosh Nayak (2020). Preparing for a future COVID-19 wave: insights and limitations from a data-driven evaluation of non-pharmaceutical interventions in Germany. ***Scientific Reports***, 10, 20084.

Hemant Bhargava, Olivier Rubel, Elizabeth Altman, Ramnik Arora, Jörn Boehnke, Kaitlin Daniels, Timothy Derdenger, Bryan Kirschner, Darin LaFramboise, Pantelis Loupos, Geoffrey Parker, and Adithya Pattabhiramaiah (2020). Platform data strategy. ***Marketing Letters***, 31(4), 323-334.

Jörn Boehnke and Pietro Bonaldi (2019). Synthetic Regression Discontinuity: Estimating Treatment Effects using Machine Learning. Peer-reviewed manuscript, ***NeurIPS*** *2019 Workshop* "Do the right thing": machine learning and causal inference for improved decision making.

Abel Kho, John Cashy, Kathryn Jackson, Adam Pah, Satyender Goel, Jörn Boehnke, John Eric Humphries, Scott Duke Kominers, Bala Hota, Shannon Sims, Bradley Malin, Dustin French, Theresa Walunas, David Meltzer, Erin Kaleba, Roderick Jones, and William Galanter (2015). Design and implementation of a privacy preserving electronic health record linkage tool in Chicago. ***Journal of the American Medical Informatics Association***, 22(5), 1072-1080.

Working Papers

Jörn Boehnke, Jacob Brophy, and Ashwin Nair. Self-Distilling Mathematical Reasoning in Small Language Models. **R&R at *Transactions on Machine Learning Research***.

Jörn Boehnke. What Makes Dynamic Pricing Dynamic? When and How to Update Prices Across a Network.

Jörn Boehnke, Henri Jenoudet, and Ashwin Nair. How Independent Is Independent Music? Artists, Recordings, and Label Promotion on Spotify.

Jörn Boehnke, Elizabeth Pontikes, and Hemant Bhargava. Confidence Over Redundancy: Operational Guidelines for Text Classification with Large Language Models.

Jörn Boehnke, Jacob Brophy, and Ashwin Nair. Treating Annotator Disagreement as a Controllable Latent Feature via Routed QLoRA Adapters.

HONORS, FELLOWSHIPS, AND GRANTS

2026, 2023, 2021 **Professor of the Year Award**, MSBA Program, University of California, Davis.

2020, 2022, 2023, 2024, 2025, 2026 Small Research Grants, University of California, Davis.

2022 Large Research Grant, University of California, Davis.

2020 Travel Grant, University of California, Davis.

2016 **Outstanding Teaching Assistant Awards**, Executive MBA Programs in Asia and Europe, University of Chicago Booth School of Business.

2010-2015 Division of the Social Sciences Fellowship, University of Chicago.

2013 NET Institute Research Grant.

2013 Division of the Social Sciences Research Grant, University of Chicago.

2009-2010 Haniel-Stipendium für ein wirtschaftsbezogenes Studium im Ausland, Haniel Foundation.

2003-2010 General Scholarship, German National Academic Foundation.

2008 Lindau Laureate Meetings Scholarship, Wilhelm und Else Heraeus Foundation.

2005-2006 Foreign Exchange Scholarship, DAAD and Chinese Scholarship Council.

TEACHING

University of California, Davis

My teaching at UC Davis spans the Master of Science in Business Analytics (MSBA), MBA, and Online MBA programs.

Machine Learning & Artificial Intelligence

MSBA, BAX-452. Students implement and evaluate methods in Python, from regression, classification, clustering, and trees to neural networks, natural language processing, large language models, and introductory reinforcement learning. The course emphasizes model selection, overfitting, and interpretability, culminating in an applied business project.

Data Design & Representation

MSBA, BAX-422. Students extract and process unstructured data using regular expressions, web scraping, JSON, and MongoDB. A final project integrates multiple sources into a coherent dataset or database and explains how the design supports a specific business problem.

AI & Business Innovation

MBA, MGV-490A. This course introduces analytics and AI from a strategic business perspective, with introductory Python for students without programming experience. Topics range from regression and treatment effects to neural networks and large language models. An applied group project emphasizes interpreting results to inform business decisions.

Agentic AI: From Models to Systems

MBA, MGV-490B. Students will build agentic AI systems from scratch, using a multi-agent trading system as the in-class example. Topics include agent coordination, automated news analysis, and trading-platform integration through the Model Context Protocol (MCP).

Data Wrangling

MBA, MGT/B-435. Students use Python, web scraping, and regular expressions to automate data collection, processing, and aggregation. A final project combines multiple sources into a dataset for a business problem, explaining how the data and design choices support decisions.

Business of the Future

Wine Executive Program, University of California, Davis. Wine-industry executives examine how artificial intelligence and data analysis can inform business decisions, with applications to profitability and customer retention.

University of Chicago

Economic Research Experience for Undergraduates

BA, Becker Friedman Institute, University of Chicago. Research training for undergraduate research assistants, combining exposure to economic research with practical instruction in programming, data acquisition, and analysis.

Practical Computing for Economists, doctoral program.

Introduction to Computational Methods in Economics, doctoral program.

Principles of Microeconomics, Economic Analysis, undergraduate program.

Harvard University and NBER

New Tools for Acquisition / Analysis of Internet Data

PhD, Harvard University and NBER. Instruction on acquiring and analyzing internet data for economic research, with a focus on turning online information into usable datasets.

PROFESSIONAL SERVICE

Editorial Service

Associate Editor, ***The Review of Economics and Statistics***.

Editorial Board, ***Frontiers in Communication***.

Conference Organization and Program Committees

2026 Track Chair, Big Data and Artificial Intelligence, AMA Summer Academic Conference.

2019 Co-organizer, Blockchain Conference, Center of Mathematical Sciences and Applications, Harvard University.

2018-2019 Co-organizer, CMSA Colloquium, Center of Mathematical Sciences and Applications, Harvard University.

2015 Program committee, ACM Conference on Economics and Computation (EC).

2015 Program committee, Auctions, Market Mechanisms and Their Applications (AMMA).

Refereeing

Journals: Economic Journal; **Economic Modelling**; **European Journal of Operational Research**; **Frontiers in Communication**; **Frontiers in Public Health**; **Games**; **IEEE Access**; **International Journal of Industrial Organization**; **Journal of Human Resources**; **Journal of Political Economy**; **Journal of Political Economy Microeconomics**; **Labour Economics**; **Management Science**; **Operations Research**; **PLOS Global Public Health**; **Scientific Reports**; **The Review of Economic Studies**; **The Review of Economics and Statistics**.

Conferences: Artificial Intelligence x Business (AIxB).

Funding agencies: National Science Foundation (NSF); Swiss National Science Foundation (SNSF).

Publishers: Cambridge University Press; Springer Nature.