Vanessa Adamandia Alwan

Website: https://vaalwan.github.io/
Email: valwan@chicagobooth.edu
Phone: 1-262-825-2626

Biography

PhD candidate in Quantitative Marketing at the University of Chicago Booth School of Business. Specializes in modeling consumer behavior, causal inference, and machine learning using large-scale datasets. Experienced in many programming languages (such as R/Python) for model development, optimization, and distributed computation. Skilled in experimental design and A/B testing, with experience collaborating across interdisciplinary teams to translate empirical results into strategic business insights. Passionate about applying quantitative methods to improve decision-making and advance scalable AI systems.

Education

University of Chicago Booth School of Buisness — Chicago,IL
Ph.D., Quantitative Marketing — 2020–2026 (expected)

University of Chicago Booth School of Buisness — Chicago,IL
M.B.A. — 2020–2026 (expected)

Duke University — Durham, NC
M.S. in Economics and Computation — 2018–2020

University of Wisconsin-Madison — Madison, WI
B.A. in Statistics (with Honors), B.A. in Mathematics, Minor in Computer Science — 2014–2018

Research Interests

Marketing Analytics, Causal Inference, Machine & Deep Learning, Generative and Multimodal Models, Pricing, Personalization, Privacy, Public Policy, Health and Nutrition

Working Papers

Product Attributes, Cross Elasticities and Dynamic Market Structure 2024
with Pradeep Chintagunta, Wenxi Li

Model evolving market structure and consumer sensitivities using a Bayesian dynamic linear framework with attribute-space distances for cross-price elasticities, demonstrated with large-scale yogurt sales data.

Stockpiling and the Discount Function 2023
with Jean-Pierre Dubé, Øystein Daljord, and Xinyao Kong

Identifies the discount factor in dynamic consumer models with stockpiling behavior using nonlinear estimation and simulation.

Work in Progress

Decomposing Price Variation During Inflationary Periods: An Application to Grocery Retail 2025
Dissertation

Quantifies price dispersion and cost pass-through during inflationary shocks across grocery retailers. Combines causal inference with large-scale scanner data to test for collusive pricing behavior.

Cross Product Learning with Product Label Data 2024

Builds multimodal learning models integrating text embeddings from product labels with sales data to predict cross-product substitution and market dynamics.

Pricing with Differential Privacy 2023
with Sanjog Misra

Designs privacy-preserving pricing algorithms using deep neural networks, studying efficiency tradeoffs between data protection and model accuracy.

Academic Activities

Invited / Contributed Presentations

- "Pricing with Differential Privacy" — *Marketing Science*, Sydney, Australia (2024)
- "Two-Side Learning: Application to the Organics Markets" — *Marketing Dynamics Conference*, Santorini, Greece (2024)
- "The Identification of the Discount Factor in Dynamic Discrete-Choice Models with Stockpiling" — *Marketing Dynamics Conference*, Atlanta, GA (2022)

Invited Research Tutorials

- NBER Economics of Privacy Tutorial, Boston, MA (2022)
- ISMS Doctoral Consortium Fellow, Miami, FL (2023)

Skills

- **Programming:** Python, R, C++, SQL, Java, Stata, Matlab, SAS
- **Machine Learning & AI:** Deep learning (PyTorch, TensorFlow), causal ML, representation and multimodal learning, transformers, time-series forecasting, Bayesian estimation
- **Econometrics & Modelling** Structural demand estimation (BLP), GMM, panel and dynamic models, natural experiments
- **Distributed Systems:** Experience with large-scale datasets, distributed and cloud-based computation
- **Data Management:** Large-scale structured/unstructured datasets, text embedding models, panel data
- **Tools/Environments:** Linux, Git, Jupyter, RStudio
- **Communication:** Presentations at international conferences; extensive teaching and mentoring experience; skilled at translating technical results for diverse audiences.
- **Languages:** English (Native), Greek (Conversational), Spanish (Basic)

Teaching

University of Chicago Booth School of Business
Teaching Assistant, MBA & EMBA Programs (2022–2024)

Courses: Pricing Strategies (BUSN 37802), Data-Driven Marketing (BUSN 37103/37803), Marketing Management (BUSN 37800), Data Science for Marketing Decision Making (BUSN 37105)

Duke University
Teaching Assistant, MQM Program (2019)

Course: Market Intelligence (Marketing 552Q)

Employment

Duke University, Durham, NC — 2018–2020
Research Assistant for V. Joseph Hotz

University of Michigan–Ann Arbor, Ann Arbor, MI — 2017–2018
Research Assistant for Anocha Aribarg

Madison Gas and Electric, Madison, WI — 2016–2017
Forecasting Intern

Scholarships and Awards

- **Phi Kappa Phi** - Undergraduate Honour Society — 2016–2018
- **Order of Omega** - Undergraduate Greek Honour Society — 2016–2018
- **University of Wisconsin-Madison Dean's List** — 2014–2018
- **Wisconsin Academic Excellence Scholarship** — 2014–2018
- **Department of Statistics Scholarship** - UW-Madison — 2017