

GRAY CALHOUN

Resume, July 13, 2021

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RECENT WORK EXPERIENCE

2020–present. Principal Economist at Amazon

- Develop scientific framework and vision for Private Brands supplier negotiations and product sourcing strategies (ongoing).
- Support several small science/engineering teams to develop ML and RL products for high-impact decision-making in vendor negotiations and Private Brands (assisting with and coaching on modeling strategy; project roadmap; hiring and developing scientists; stakeholder engagement).

2017–2020. Senior Economist at Amazon

- Developed econometric, machine learning, and reinforcement learning models/algorithms for FBA inventory management and operations; strategic forecasting decisions (Prime Day, macroeconomic events, delivery speed investments) and advertising costs to customers.
- Team lead for cross-functional teams of 3–10 ICs to launch and support those models.
- Conduct economic analysis, write scientific and business documents, and engage with leadership and stakeholders to support strategic decisions at SVP, S-team, and CEO level.
- Recruiting committee coordinator for time-series and forecasting economists — revised company-wide hiring guidelines and interview structure; onboarded & trained new interviewers; conducted 70+ interviews.
- Organized and contributed to multiple company-wide scientific programs — technical review; internal conferences and seminars; educational lectures and training; etc. (ongoing).

2009–2017. Assistant Professor of Economics, Iowa State University

- Published research in econometrics, primarily time series, forecasting, and the bootstrap; with secondary interests in macroeconomics and data visualization.
- Taught PhD Econometrics (first year introductory course and a time-series elective) and undergraduate macroeconomics (lectures up to 350 students); advised graduate students in Economics and Statistics departments.
- See <http://gray.clhn.org/dl/calhoun-cv.pdf> for complete academic CV.

EDUCATION

2009. PhD Economics. University of California, San Diego.

2006. MS Statistics. University of California, San Diego.

2001. BA Mathematics. Tufts University.

PEER-REVIEWED PUBLICATIONS

- Block bootstrap consistency under weak assumptions. *Econometric Theory*, 34(6):1383–1406, 2018
- Integrated Assessment Models of the Food, Energy, and Water (FEW) Nexus: A Review and Research Needs (with Catherine L. Kling, Raymond W. Arritt, and David A. Keiser). *Annual Review of Resource Economics*, 9:143–163, 2017
- Bootstrap Confidence Intervals for Sharp Regression Discontinuity Designs (with Otávio Bartalotti and Yang He). *Advances in Econometrics*, 38:421–453, 2016
- Hypothesis testing for linear regression when k/n is large. *Journal of Econometrics*, 165(2):163–174, 2011

OTHER

- Programming skills: R, Julia, SQL, Python, Matlab, and other statistical and scientific programming languages.
- See <https://github.com/grayclhn> for code repositories and artifacts (pre-Amazon).
- See <https://scholar.google.com/citations?user=OS8d9ycAAAAJ> for additional research papers (pre-Amazon).