

Adam Patterson

Economist & Data Science Engineer

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EDUCATION

Central Connecticut State University <i>Master of Science in Data Science</i>	2025
University of Connecticut <i>Master of Science in Quantitative Economics</i>	2020
University of Connecticut <i>Bachelor of Arts in Economics</i>	2019

SKILLS

Technical: SQL, Python, R, AWS (S3, Lambda, SageMaker, Athena, Glue, Bedrock, QuickSight), AutoGluon, PowerBI, Tableau, Excel

Statistical: Causal Inference, A/B Testing, Regression Analysis, Probability Theory, Hypothesis Testing, Panel Data, Bayesian Hierarchical Modeling, Time Series Analysis, Machine Learning (Supervised/Unsupervised), Deep Learning, Regularization, Dimensionality Reduction, Ensemble Methods

Field: Agentic AI, Gen AI, LLM, AutoML, NLP, Big Data, Econometrics, Data Analysis & Visualization, Data-driven Decision Making

EXPERIENCE

Amazon Jun 2024 – Present
Economist Apprentice Seattle, WA

- Developed Surrogate Index Models to translate LLM updates into forecasts of long-term business impact
- Reduced the standard error of a production model by 6% using bias-injected simulations
- Engineered scalable data pipelines using Cradle, Athena, and Glue to support model inference and real-time decision-making
- Automated monthly model runs using AWS Lambda and SageMaker endpoints
- Conducted A/B testing to identify treatment effects, accounting for multiple testing and covariate imbalance
- Leveraged SQL for data extraction, transformation, and loading to generate science models
- Designed and automated monthly indices using P0 metrics, with reporting in QuickSight
- Applied advanced statistical techniques in Python to construct causal models for observational and experimental data

University of Connecticut Dec 2019 – Present
Research Technician Storrs, CT

- Architected a template RAG system for ECON5501 students
- Employed LLM-based persona agents to pilot survey instruments and identify potential response bias
- Managed end-to-end data collection, processing, analysis, and reporting for research studies
- Utilized various quasi-experimental designs (difference-in-differences, event study, IPTW, IV) to identify and quantify causal impacts from naturally occurring or programmatic variations on student learning outcomes
- Performed rigorous hypothesis testing and statistical inference to validate findings and inform pedagogical strategies
- Evaluated heterogeneous treatment effects (HTE) across diverse student populations to inform educational policy
- Delivered instruction in econometrics and microeconomics, cultivating analytical and quantitative skills in undergraduate students

Nichols College Dec 2022 – Jul 2024
Adjunct Professor Dudley, MA

- Taught DS 201 Introduction to Data Science, covering Python programming and predictive modeling for business applications
- Introduced students to robotics and automation using Microsoft Power Automate

- Developed students’ skills in data management, visualization, and advanced modeling using Excel, PowerBI, and Tableau
- Explained and applied the four levels of analytics for Business Intelligence applications
- Conducted research on educational VR applications and facilitated faculty adoption
- Supervised a team of four undergraduates in assessing VR intervention impact through pre- and post-surveys

Bryant University

Dec 2023 – May 2024

Adjunct Professor

Smithfield, RI

- Instructor of ECON 114 Principles of Macroeconomics
- Taught the circular flow of income, GDP, inflation, unemployment, interest rates, international finance, and international trade
- Incorporated salient events into lectures to connect theory with current policy events
- Led projects where students collected, managed, visualized, and analyzed economic data using FRED
- Facilitated data-driven case studies analyzing how policy events correlate with economic variables
- Designed assignments for students to create dashboards analyzing how policy shifts influence key economic indicators

PUBLICATIONS

10. Frydenberg, M., Mentzer, K., & **Patterson, A.** (2026). “The Rapid Rise of Generative AI Adoption among First-Year College Students.” *Information Systems Education Journal*, 24(1).
9. **Patterson, A.** (2025). “Assessing the Alignment of FOMC Statements with Minutes using Large Language Models.” *Issues in Information Systems*, 26(2).
8. Zhao, W., **Patterson, A.**, Sentihilkumar, C., Wang, Y., Gupta, A., Sadighi, S., & Nayyar, N. (2025). “From Metrics to Meaning: Estimating User Feedback Using LLM-Based Evaluation.” *Amazon Science Internal Publication*.
7. **Patterson, A.**, Temple, C., Anderson, N., Rogalski, C., & Mentzer, K. (2025). “The Virtual Stage: Virtual Reality Integration in Effective Speaking Courses.” *Information Systems Education Journal*, 23(4).
6. **Patterson, A.** (2024). “Examining Text Consistency Amongst FOMC Statements and Minutes Subtext Using Deep Learning.” *Issues in Information Systems*, 25(3).
5. **Patterson, A.**, Frydenberg, M., & Basma, L. (2024). “Examining Generative Artificial Intelligence Adoption in Academia: a UTAUT Perspective.” *Issues in Information Systems*, 25(3).
4. Rruppli, E., Frydenberg, M., **Patterson, A.**, & Mentzer, K. (2024). “Examining Factors of Student AI Adoption through the Value-Based Adoption Model.” *Issues in Information Systems*, 25(3).
3. Mentzer, K., Frydenberg, M., & **Patterson, A.** (2024). “Are Tech Savvy Students Tech Literate? Digital and Data Literacy Skills of First-Year College Students.” *Information Systems Education Journal*, 22(3).
2. Grealis, T., Harmon, O., **Patterson, A.**, & Tomolonis, P. (2024). “Excel Literacy in The Classroom.” *Business Education Innovation Journal*, 16(2).
1. **Patterson, A.**, Mocarsky, M., Cho, J., Harmon, O., & Calvert, C. (2023). “Teaching Data Literacy and Sports Economic Fundamentals Using Fantasy Sports.” *Business Education Innovation Journal*, 15(1).

PRESENTATIONS

18. (2025). Discussant, “Teaching Economics More Efficiently (and Effectively) with Python.” *Southern Economic Association Annual Meeting*, Tampa Bay, FL.
17. (2025). “Excel Proficiency – Assessing and Promoting.” *Southern Economic Association Annual Meeting*, Tampa Bay, FL.
16. (2025). “Assessing the Alignment of FOMC Statements with Minutes using Large Language Models.” *International Association for Computer Information Systems*, Clearwater, FL (virtual).

15. (2025). "From Metrics to Meaning: Estimating User Feedback Using LLM-Based Evaluation." *Amazon Economist Summit*, Seattle, WA.
14. (2025). "Onboarding Session: Setting up Coding Environment and Best Practices." *Amazon EA Summit*, Seattle, WA.
13. (2025). "Excel Literacy in The Classroom." *American Economic Association: Allied Social Science Association Annual Meeting*, San Francisco, CA.
12. (2024). "Data-Driven Decision-Making at Amazon." *Topics in Tech at Bentley University*, Waltham, MA (virtual).
11. (2024). "Examining Text Consistency amongst FOMC Statements and Minutes Subtext using Deep Learning." *International Association for Computer Information Systems*, Atlantic Beach, FL (virtual).
10. (2024). "Examining Text Consistency amongst FOMC Statements and Minutes Subtext using Deep Learning." *2nd Annual Research, Experiential, and Applied Learning Symposium*, Dudley, MA.
9. (2024). "The Rapid Rise of AI Adoption amongst College Students." *2nd Annual Research, Experiential, and Applied Learning Symposium*, Dudley, MA.
8. (2024). "Integrating VR into Effective Speaking." *2nd Annual Research, Experiential, and Applied Learning Symposium*, Dudley, MA.
7. (2023). "Excel Literacy in the Classroom and for the Future." *American Economic Association: Conference on Teaching and Research in Economic Education*, Portland, OR.
6. (2023). "Towards Measuring Data Literacy Skills." *1st Annual Research, Experiential, and Applied Learning Symposium*, Dudley, MA.
5. (2023). "Excel Literacy in the Classroom and for the Future." Poster session, *American Economic Association: Allied Social Science Association Annual Meeting*, New Orleans, LA.
4. (2022). "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts." Poster session, *American Economic Association: Allied Social Science Association Annual Meeting*, Boston, MA (virtual).
3. (2021). "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts." *Western Economic Association International 96th Annual Meeting*, Hawaii (virtual).
2. (2021). "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts." *American Economic Association: Conference on Teaching and Research in Economic Education*, Portland, OR (virtual).
1. (2020). "Using Baseball Simulation to Teach Economic Concepts." *Southern Economic Association 90th Annual Meeting*, New Orleans, LA (virtual).

AWARDS

IS Education Focus Area Distinguished Paper Award, ISCAP	2024
Top Conference Reviewer, ISCAP	2024
IS Education Focus Area Distinguished Paper Award, ISCAP	2023