Adam Patterson

Economist & Data Scientist

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Education

MASTER OF SCIENCE | Data Science | Central Connecticut State University 2025
MASTER OF SCIENCE | Quantitative Economics | University of Connecticut 2020
BACHELOR OF ARTS | Economics | University of Connecticut 2019

Skills

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

Statistical: Causal Inference, Experimentation Design (A/B Testing), Regression Analysis, Probability Theory, Hypothesis Testing, Panel Data, Bayesian Hierarchical Modeling, Time Series Analysis, Machine Learning (Supervised/Unsupervised): Deep Learning, Prediction, Classification, Clustering, Regularization, Dimensionality Reduction, Feature Selection, Ensemble Methods, Decision Trees, Association Rules

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

Experience

Economist Apprentice | Amazon | Seattle, WA | Jun 2024 – present

- 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 30 P0 metrics, with reporting in QuickSight
- Applied advanced statistical techniques in Python to construct causal models for observational and experimental data

Research Technician & Graduate Instructor | University of Connecticut | Storrs, CT | Dec 2019 – present

- 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

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

- 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

Adjunct Professor | Bryant University | Smithfield, RI | Dec 2023 – May 2024

- 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

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).

Patterson, A. (2025). *Assessing the Alignment of FOMC Statements with Minutes using Large Language Models*. ***Issues in Information Systems***, 26(2).

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.***

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).

Patterson, A. (2024). *Examining Text Consistency Amongst FOMC Statements and Minutes Subtext Using Deep Learning*. ***Issues in Information Systems***, 25(3).

Grealis, T., Harmon, O., Patterson, A., & Tomolonis, P. (2024). *Excel Literacy in The Classroom.* ***Business Education Innovation Journal***, 16 (2).

Patterson, A., Frydenberg, M., Basma, L. (2024). *Examining Generative Artificial Intelligence Adoption in Academia: a UTAUT perspective*. ***Issues in Information Systems***, 25(3).

Rruplli, 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).

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).

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

2025 Discussant, "Teaching Economics More Efficiently (and Effectively) with Python", Southern Economic Association Annual Meeting, Tampa Bay, FL

2025 "Excel Proficiency - Assessing and Promoting" Southern Economic Association Annual Meeting, Tampa Bay, FL

2025 "Assessing the Alignment of FOMC Statements with Minutes using Large Language Models" International Association for Computer Information Systems, Clearwater, FL (virtual)

2025 "From Metrics to Meaning: Estimating User Feedback Using LLM-Based Evaluation" Amazon Economist Summit, Seattle, WA

2025 "Onboarding Session: Setting up Coding Environment and Best Practices" Amazon, EA Summit, Seattle, WA

2025 "Excel Literacy in The Classroom" American Economic Association: Allied Social Science Association Annual Meeting, San Francisco, CA

2024 "Data-Driven Decision-Making at Amazon" Topics in Tech at Bentley University, Waltham, MA (virtual)

2024 "Examining Text Consistency amongst FOMC Statements and Minutes Subtext using Deep Learning" International Association for Computer Information Systems, Atlantic Beach, FL (virtual)

2024 "Examining Text Consistency amongst FOMC Statements and Minutes Subtext using Deep Learning" 2nd Annual Research, Experiential, and Applied Learning Symposium, Dudley, MA

2024 "The Rapid Rise of AI Adoption amongst College Students" 2nd Annual Research, Experiential, and Applied Learning Symposium, Dudley, MA

2024 "Integrating VR into Effective Speaking" 2nd Annual Research, Experiential, and Applied Learning Symposium, Dudley, MA

2023 "Excel Literacy in the Classroom and for the Future" Annual American Economic Association: Conference on Teaching and Research in Economic Education, Portland, OR

2023 "Towards Measuring Data Literacy Skills" 1st Annual Research, Experiential, and Applied Learning Symposium, Dudley, MA

2023 "Excel Literacy in the Classroom and for the Future" poster session, American Economic Association: Allied Social Science Association Annual Meeting, New Orleans, LA

2022 "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts" poster session, American Economic Association: Allied Social Science Association Annual Meeting, Boston, MA (virtual)

2021 "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts" Western Economic Association International 96th Annual Meeting, Hawaii (virtual)

2021 "Using ESPN Fantasy Baseball Simulation to Teach Economic Concepts" Annual American Economic Association Conference on Teaching and Research in Economic Education, Portland, OR (virtual)

2020 "Using Baseball Simulation to Teach Economic Concepts" Southern Economic Association 90th Annual Meeting, New Orleans, LA (virtual)

Awards

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