

THOMAS PRESTON MONK, PH.D.

APPLIED SCIENTIST - PRICING | HOUSING ECONOMICS | CAUSAL INFERENCE | APPLIED AI

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SUMMARY

Ph.D. economist whose housing-market research used causal inference and spatial econometrics to study property values and homeowner behavior. Now builds production data science and applied AI systems that turn complex enterprise data into grounded decisions.

RELEVANT EXPERIENCE

DeVoe L. Moore Center, Florida State University

Tallahassee, FL

Doctoral Researcher

2020–2024

- Built large-scale geospatial research datasets linking Miami-Dade property transactions and parcels with crime, demographics, transit, environmental, infrastructure, and administrative records to model valuation and homeowner behavior.
- Applied difference-in-differences, nearest-neighbor designs, spatial econometrics, fixed effects, balance tests, and falsification tests across three papers on local price shocks, tenure change, residential mobility, and market-wide repricing.
- Estimated where shocks entered home prices (4.8% within 0.1 miles), how nearby rental transitions changed an owner's probability of selling, and how COVID-19 repriced transit proximity. [Research and papers](#).

Simplify

Miami, FL

Economist, Data Science and Applied AI

2026–Present

- Entrusted to define and build applied AI and data science systems for inventory, replenishment, replacement, recommendation, and sales decisions, with ownership from an ambiguous business question through production implementation.
- Architected grounded enterprise AI combining SQL, semantic retrieval, knowledge graphs, deterministic business rules, and LLMs; designed orchestration that routes each request to structured data, graph, or document evidence before generation.
- Built recommendation, forecasting, lifecycle, and monitoring systems from more than five years of transaction history and millions of customer-product interactions using Python, SQL, PySpark, PostgreSQL, and cloud platforms.

RogueHire

Miami, FL

Data Scientist

2024–2026

- Architected an AI-assisted occupation classification system using embeddings, semantic retrieval, and LLMs to normalize unstructured job titles and replace a third-party vendor.
- Designed a labor-market intelligence platform connecting occupations, companies, universities, geography, labor statistics, and economic indicators; built models for time-to-fill, offer acceptance, and recruiter intervention.

EDUCATION

Florida State University

Ph.D. Economics, 2024; M.S. Economics, 2019

University of South Alabama

B.S.B.A. Economics, 2018

METHODS AND TECHNOLOGY

Economics and modeling: Econometrics, causal inference, spatial econometrics, statistical modeling, forecasting, recommendation systems, experimentation, model evaluation, decision support

Applied AI: LLMs, semantic retrieval, embeddings, knowledge graphs, grounded generation, tool routing, retrieval-augmented generation

Engineering: Python, SQL, PySpark, R, PostgreSQL, AWS, Azure Fabric, Docker, Git