# JAMES NESBIT

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## PROFESSIONAL EXPERIENCE

**Amazon**
*World Wide Return and ReCommerce Planning*
Senior Applied Scientist — *January 2025-Present*

- Architecting forecasting and supply chain planning platform for returns and reverse logistics supply chain, identifying a $230M entitlement opportunity through increased planning accuracy, optimized inventory flows and improved execution. Leading cross-functional integration of forecasting, planning, optimization, and simulation components to create an end-to-end planning system.
- Developing interpretable time series models within an integrated forecasting and planning framework with built-in decomposition capabilities, enabling business users to trace inventory movements throughout the supply chain and diagnose precisely where actuals deviate from plans.
- Establishing statistical forecast goal planning framework for Finance teams, incorporating analytical rigor into goal setting and review processes. Framework combines baseline forecasts with simulated business initiatives to define range of goal trajectories, while forecasting decomposition allows stakeholders to bridge gaps between actuals and forecasts.
- Creating causal inference capabilities through custom software packages and self-service applications that quantify downstream impact of returns policy changes on customer behavior, enabling data-driven policy adjustments.
- Designing and implementing an enterprise MLOps platform for forecasting that enables model experimentation, automated training workflows, and promotion across development to production environments. Platform supports complex hierarchical forecasting with directed acyclic graph dependencies while ensuring reproducibility, scalability, and governance throughout the model lifecycle.

**Amazon**
*F3 Distribution Optimization and Grocery Innovation*
Senior Applied Scientist — *December 2023-January 2025*
Applied Scientist II — *October 2023-December 2023*
Economist II — *October 2021-October 2023*
Economist I — *March 2021-October 2021*

- Designed and implemented state-of-the-art optimization algorithms for transportation planning and execution, optimal replenishment, inventory planning, and store layout optimization, delivering over $100M in cost savings. Partnered with internal stakeholders to translate complex business requirements into scientific and algorithmic solution designs.
- Built scalable science solutions using diverse technology stack (Java for optimization, Python/SQL for data analysis, React for front-end interfaces) on AWS infrastructure to support thousands of Amazon Fresh stores as well as Whole Foods Market locations.
- Guided engineering teams in productionizing scientific solutions at scale, ensuring both mathematical rigor and intuitive interfaces for business users while maintaining alignment with strategic business outcomes.
- Collaborated with forecasting science teams to integrate time series models into optimization frameworks, ensuring consistency through supply chain planning systems.

- Conducted qualitative analysis of operational and business problems using mathematical programming, causal inference, forecasting and simulation to ensure solutions meet business requirements and to identify new opportunities.
- Led over 40 technical interviews for time series forecasting roles, evaluating candidates' expertise in translating ambiguous business problems into rigorous scientific solutions through statistical methods, machine learning approaches, and practical implementation skills.

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, R, C++, React
**Cloud & Tools:** AWS (CDK and Python CDK)
**Areas of Expertise:** Time Series Forecasting, Optimization, Causal Inference, MLOps

## RESEARCH AND EDUCATION

**Ph.D. in Economics, New York University** *2015–2021*

Advisors: Tim Christensen, José Luis Montiel Olea, Alfred Galichon

### Publications and Forthcoming

"(Machine) Learning Parameter Regions"
(with José Luis Montiel Olea)
*Journal of Econometrics*, Vol. 222(1), 2021, pp. 716-744

"Short-Term Fluctuations in Incidental Happiness and Economic Decision-Making: Experimental Evidence From a Sports Bar"
(with Judd Kessler, Andrew McClellan, and Andrew Schotter)
*Experimental Economics* Vol. 25(1), 2024, pp. 141-169

"A Robust Machine Learning Algorithm for Text Analysis"
(with Shikun Ke and José Luis Montiel Olea)
*Quantitative Economics* Vol. 15(4), 2024, pp. 939-970

### Working Papers

"Text as Instruments"