

# Kristin Vrona

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## CAREER HIGHLIGHTS

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- Adaptive Economist with experience in applied econometrics and microeconomics, policy analysis, consulting, and logistics
- Professional record improving effective resource allocation and cost savings in both private and public sectors
- 10 years of experience in data management and analysis; 8 years of statistical analysis and applied econometrics

## EDUCATION

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Northern Illinois University (NIU) DeKalb, IL  
**Ph.D., Economics (GPA: 3.95)** May 2025

Degree specializations: applied econometrics, labor economics  
Secondary fields: health economics, strategy and game theory, public policy  
NIU Dissertation Fellowship, academic year 2022 - 2023

**M.A., Economics (GPA: 3.97)** Dec 2018  
NIU Graduate School's Outstanding Graduate Research Award, May 2018  
NIU Department of Economics' Outstanding Master's Student Award, Dec 2017

**B.S., Economics (GPA: 3.93), *summa cum laude*** May 2016

### Dissertation

*An Analysis of Mental Health and Workplace Absenteeism:* This dissertation investigates how untreated mental illness affects employee absenteeism and how employers can reduce productivity losses through targeted benefit design. Leveraging MEPS data (2010–2014), I apply several econometric frameworks to isolate the causal impact of mental health on labor outcomes, and examine the possibility of non-random selection into employment that biases the magnitude of estimates. A key innovation is a spectral approach to mental illness measurement that captures symptom variation beyond formal diagnosis. The findings support the business case for early intervention and tailored health benefits to enhance employee retention and performance.

## FIELD EXPERIENCE

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**Freelance Economist:** *Applied Microeconomics, Econometrics* Nov 2024 - present

- Contracted by Snorkel AI to evaluate machine learning models
- Conducted stress tests and adversarial analyses to uncover AI model vulnerabilities

**Institute for the Study of the Environment, Sustainability, & Energy** DeKalb, IL  
*Graduate Research Fellow* Aug 2022 – Sep 2024

- **Fellowship sponsored by Illinois Department of Natural Resources (IDNR)**
- Consulted IDNR on improving scoring indexes that determine funding allocations, streamlined review workflows, uncovered scoring inefficiencies
- Contributed to a 20% increase in funding for high-need communities; team efforts formally recognized by the state senate (Feb 29, 2023) gubernatorial press conference (March 1, 2023)
- Reviewed over 150 competitive grant proposals, applying a balanced framework of need, feasibility, and community support to allocate \$59M in state funding
- Integrated qualitative data (e.g. clean water and environmental risk assessments, town hall transcripts, follow-up surveys) with quantitative measures (e.g., localized Gini indices and GIS analytics) to inform funding decisions

## **MOL Logistics (US corporate office)**

*Business Planning Analyst (2017); Cost Savings Analyst (2016)*

Lombard, IL

May 2016 – Jul 2017

- Increased forecasting accuracy by 5–8% using time series regression and econometric modeling to refine demand and cost projections across international shipping operations.
- Continuously monitored forecast model performance, identified emerging operational inefficiencies, and delivered data-driven recommendations to senior executives.
- Designed and rolled out standard operating procedures (SOPs) across finance, logistics, and compliance departments, improving cross-team consistency and accountability.
- Launched and led weekly operational audits that reallocated idle container assets, boosting fleet utilization and cutting storage costs.
- Received the MOL Spot Award (June 2017) for spearheading a cross-departmental process improvement initiative that reduced turnaround time and enhanced reporting clarity.

## **OTHER SELECTED DOCTORAL RESEARCH**

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**Project: *Equilibrium Outcomes Under Mental Health Parity Enforcement*** (working paper)

*In collaboration with Dr. Anna Klis, Department of Economics (NIU)*

Topics: Game theory, strategy, healthcare policy, employer compliance, mechanism design

- Developed a model game of employer compliance to mental health parity enforcement under the ACA
- Used game theory to evaluate behavioral responses of employers to compliance incentives
- Conducted mechanism design analysis to explore strategic insurance design under varying regulatory pressures

## **ADDITIONAL EXPERIENCE**

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**Department of Economics (NIU)**

*Instructional Teaching Assistant*

DeKalb, IL

Aug 2017 - Aug 2022

- Independently instructed undergraduate macroeconomics courses for 15 - 38 students
- Promoted innovative team-based learning (TBL) initiatives
- Led graduate level recitation sessions in applied microeconomic analysis
- Lectured graduate students in public economics and the intersection of health & labor economics
- Represented the Economics Department at university events, promoting the program and recruitment

## **TECHNICAL SKILLS**

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### **Programming Languages**

- Proficient in R, SAS, VBA,  $\text{\LaTeX}$
- Intermediate experience with Python, GitHub, STATA

### **Operational Database & Public Fund Management**

- SQL, BI software, ODS management, STARNET (contract management & auditing), AmpliFund (public grant management software)

### **Econometric Methods**

- Time-Series Analysis, Instrumental Variables, Panel Methods, Regression Discontinuity, Duration & Survival Analysis, Simultaneous Regression
- Matching, Simulation, Bias Reduction & Re-Sampling Techniques (Bootstrap, Jackknife), Sensitivity Analysis