Kai Ling

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RESEARCH INTERESTS

Environmental Economics, Econometric Modeling, Machine Learning, and Big Data

EDUCATION

Auburn University — Auburn, AL
PhD in Applied Economics — *2022.08–present*

The George Washington University — Washington, DC
MS in Data Analytics — *2019.08–2020.12*

The Pennsylvania State University — State College, PA
BS in Applied Mathematics — *2015.08–2018.12*

PUBLICATION

Ling, K., Won, S., & Li, W. (2025). Investigating Production Cycles in the US Softwood Lumber Industry: 1965–2017. *Journal of Forest Economics*, 40(4), 383-404. DOI:10.1561/112.00000598

JOB MARKET PAPER

Title: Investigating the Impact of the Historical Weather Events on the adoption of Conservation Tillage.

- Abstract: This study develops a modified Almon ridge estimator to examine how historical weather patterns influence farmers' adoption of conservation tillage. The estimator combines a flexible polynomial distributed lag structure with ridge regularization, allowing us to capture long, overlapping effects of past temperature and precipitation while mitigating multicollinearity among lagged weather variables. Using panel data that merge farm-level tillage decisions with multi-year historical weather records, we compare the performance of the modified Almon estimator to a traditional fixed-effects specification. The results indicate that the modified estimator consistently outperforms the standard fixed-effects model in terms of model fit and predictive accuracy, and yields smoother, more interpretable lag profiles. Substantively, we find that weather conditions up to five years in the past can still affect current conservation tillage decisions for a subset of farms, pointing to a much longer memory in farmers' responses to climatic risks than is typically assumed. These findings underscore the value of regularized distributed-lag methods for understanding behavioral adaptation to evolving weather and climate conditions in agriculture.

PRESENTATIONS

Ling, K., Won, S. (2025). Investigating the Impact of Historical Weather Events on Climate-Smart Agriculture Adoption. 2025 AAEA Annual Meeting.
Ling, K., Won, S., & Li, W. (2025). Uncovering the Production Cycle behind the US Lumber Industry: from 1965 to 2017. 2025 AAEA Annual Meeting.
Ling, K., Deb, P., & Li, W. (2023). Global Food Price Volatility Spillover from International to Domestic Markets. 2023 AAEA Annual Meeting.

WORKING PAPERS

Dry antecedent conditions amplify extreme heat and reduce crop yields across U.S. counties. (With Sunjae Won).
Global Food Price Volatility Spillover from International to Domestic Markets. (With Prokash Deb, and Wenying Li).
Impact of Extreme Weather Events on the Adoption of Crop Insurance in the United States. (With Peibin Hou and Foster McCurry).

PROFESSIONAL EXPERIENCE

Graduate Research Assistant Auburn, AL
Auburn University *2021.08–present*

Data Analyst Washington, DC
IBM practicum *2020.05–2020.08*

Maintenance Engineer Beijing, China
Epson China *2015.01–2015.08*

SELECTED TECHNICAL PROJECTS

Global Scale Dynamic Land Ecosystem Model (DLEM) Development **Auburn, AL**
Auburn University *2021.08-2022.07*

- Incorporated permafrost related physical processes including heat exchange equation, a moss layer at soil surface and organic soil parameterizations into DLEM, improving the model simulation performance regarding soil temperature and soil moisture for the arctic regions.
- Developed vertical frozen soil biogeochemical model including cryoturbation/bioturbation and vertical movement of soil organic carbon.

Third Party Risk Identification **Washington, DC**
IBM *2020.05-2020.08*

- Collected and processed 10k+ scrapped third-party customer review data and applied advanced NLP techniques to perform the sentiment analysis based on business needs to identify the potential risk influences.
- Clarified the client's current business process and discussed designed consulting solutions with clients frequently; Made optimization of the sentiment analysis directions according to the feedback.

House Price Prediction Competition(Top 3%) **Washington, DC**
The George Washington University *2020.08-2020.12*

- Collected and processed 10k+ scrapped third-party customer review data and applied advanced NLP techniques to perform the sentiment analysis based on business needs to identify the potential risk influences.
- Clarified the client's current business process and discussed designed consulting solutions with clients frequently; Made optimization of the sentiment analysis directions according to the feedback.

Cloud Computing and Big Data Modeling **Washington, DC**
The George Washington University *2020.08-2020.12*

- Used Python to Extract contents from the 56 GB cloud disaggregation dataset which stored in 3k+ double compressed folders, reformatted the data from the raw format, added necessary features to perform the analysis.
- Used SQL query to manipulate and analyze the wrangled dataset, evaluated the rank of important attributes, and explored the relationship within different electrical appliances.

TECHNICAL SKILLS

Programming

Python • R • C++ • HTML/CSS • SQL • SAS

Miscellaneous

Spark • LaTeX• ArcGIS • Microsoft Office

PROFESSIONAL TRAINING

Python Full Stack Web Developer Training
NVIDIA Deep Learning Certification
Tridium Niagara 4 Technical Certification

References

Sunjae Won(Advisor)
Assistant Professor
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