

# ZIYU GUO

## Research Associate

Ph.D, Department of Agricultural, Environmental and Development Economics  
The Ohio State University  
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## SUMMARY

Highly motivated PhD student adept at collecting, cleaning, analyzing and interpreting large dataset. Possessing extensive ability at developing theoretical models, quantitative models and running simulations. Also attaining strong knowledge at machine learning. Good at commutation and teamwork.

## EDUCATION

**The Ohio State University** | Columbus, OH, U.S.

**Ph.D. Major in Agricultural, Environmental and Development Economics | MAY 2021(Expected)**

**Ph.D Minor in Computer Science**

Committee Member: Yongyang Cai (Advisor), Wuyang Hu, Ian Sheldon, Elena Irwin

Master of Science, Agricultural, Environmental, Developmental Economics | DEC 2014

Advisor: Alessandra Faggian

**Jilin University** | Changchun, Jilin ,China

Master of Economics | JUL 2013

Advisor: Zhen Yu

Bachelor of Engineering | JUL 2011

Advisor: Suyi Li

## RESEARCH INTEREST

Environmental and Resource Economics; Industrial Organization; Computational Economics; Climate Change Economics; International trade; Integrated Modeling; Decision Making under Uncertainty

## RESEARCH EXPERIENCE

### ○ RESEARCH ASSOCIATE | AUG 2018 - PRESENT

*The Ohio State University, Columbus, OH*

- **Research Project:** Global Disruption Due to Covid-19: Evaluating the Potential Impact on the Ohio Economy | Apr 2020 - PRESENT
  - Solve a dynamic regional model with GAMs to evaluate the impact of Covid-19
- **Research Project:** Regional integrated modeling of farmer adaptations to guide agroecosystem management in a changing climate | Aug 2018 - PRESENT
  - Estimated parameters using structural estimation for different functions with Python and MATLAB, conduct reports and discuss results with teams
  - Assisted developing a multi-sector regional economic model to simulate land use and management patterns across the eastern Corn Belt under future scenarios
  - Participated in meetings with project leaders advisories, and stakeholders
- **Research Project:** Dynamic Regional Food, Energy, Water Systems Project | Aug 2018 - PRESENT
  - Collected and cleaned multiple datasets, extrapolate missing data in MATLAB and Python
  - Estimated parameters via structural estimation and interpreted results
  - Assisted building dynamic models in GAMs to predict the impact of climate change on the agricultural sector, manufacturing sector, energy sector and ecosystem services in the Great Lake area.

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### SUMMER SCHOOLS

- **Summer School in new Initiative for Computational Economics** | Jul 2018- Aug 2018  
Stanford University, Hoover institution, Stanford, CA
- **Summer School in Environmental and Energy Economics** | Jul 2016- Aug 2016  
U.C. Berkeley, Haas School of Business, Berkeley, CA

### PAPER IN PROGRESS

- **Ziyu Guo**, Modeling the Feed-in Tariff and Renewable Energy Certificates Schemes in the U.S. Electricity Market
- **Ziyu Guo, Yongyang Cai, Ian Sheldon**, International Model of Agricultural Trade and Impacts on Great Lake Region
- **Yongyang Cai, Ziqian Gong, Ziyu Guo, Elena Irwin**, Computable General Equilibrium Model of The Great Lakes Region with Integration of Dynamic Regional Model
- **Yongyang Cai, Brian Cultice, Ziqian Gong, Ziyu Guo, Elena Irwin, Ian Sheldon, Alan Randall, Jeff Bielicki**, Dynamic General Equilibrium Model of A Regional Economy with Focus on Food, Energy and Water Systems

### PROFESSIONAL EXPERIENCE

- **PROJECT MEMBER** | JAN 2019 - MAY 2019  
*The Ohio State University, Columbus, OH*
- **Machine Learning Project:** Map identification and classification
  - Used MLPs, SVMs and CNNs to perform map identification and compare different testing accuracy for different setting, and achieved the highest test accuracy at 97%.
  - Performed transfer learning with tensorflow on GoogLeNet, VGG16 and VGG19 for map classification and compare testing accuracy, achieved the highest test accuracy at 92%.
  - Conducted reports to discuss results and possible improvements for Neural Networks
- **PROJECT LEADER** | JAN 2017 - MAY 2017  
*The Ohio State University, Columbus, OH*
- **Big Data Project:** Asset Pricing models: Choose the right factors
  - Run Lasso regression with R-LARS package
  - Performed variable selection analysis based on regression results to compare 5-factor Fama French model and Q-factor model by Hou, Xue, and Zhang (2015),
  - Presented the model and results and leded discussion within the group

### TEACHING EXPERIENCE

- **TEACHING ASSOCIATE** | AUG 2015 – APR 2018  
*The Ohio State University, Columbus, OH*
- AEDE 5331 – Cost and Benefit Analysis
- AEDE 2001 – Principals of Food and Resource Economics
- AEDE 3101 – Principals of Agribusiness Management
- AEDE 4540 – International Commerce and the World Economy
- AEDE 2580 - Feast or Famine? The Global Business of Food

### SKILLS

Quantitative Modeling | Structural estimation | Machine learning | Parallel Computing | GPU Programming |

- |          |   |        |   |              |   |
|----------|---|--------|---|--------------|---|
| ○ PYTHON |  | ○ R    |  | ○ SQL/NoSQL  |  |
| ○ MATLAB |  | ○ HTML |  | ○ JAVASCRIPT |  |
| ○ GAMs   |  | ○ CSS  |  | ○ C          |  |

# ZIYU GUO

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## HONORS AND AWARDS

- Graduate Research/Teaching Associate Fellowship, The Ohio State University
- Research Travel Grant of Department of AED Economics, The Ohio State University
- Graduate Fellowship, Jilin University
- Outstanding Thesis Award, Jilin University
- Undergraduate Student Scholarship, Jilin University

## CONFERENCE PRESENTATIONS

2019, Invited Conference Presentations, INFORMS annual meeting, Seattle, WA

- Modeling the Feed-in Tariff and Renewable Energy Certificates Schemes in U.S. Electricity Market

## PROFESSIONAL AFFILIATIONS

- The American Economic Association
- Association of Environmental and Resource Economists
- Institute for Operations Research and the Management Sciences
- Agricultural & Applied Economics Association
- International Chinese Economist Society

## SOCIAL EXPERIENCE

- Vice President, Graduate Student Association in AEDE  
Columbus, U.S.
- Stock Market Analyst, AVIC Securities CO.,LTD  
Beijing, China
- President, XinYu Volunteer Association  
Changchun, China

## REFERENCE

Yongyang Cai, Ph.D. Associate Professor  
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