Jia Hao (Jason) Zhu

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Education

Ph.D. in Agricultural and Resource Economics, University of California, Davis — Expected Mar 2027
M.S. in Agricultural and Resource Economics, University of California, Davis — June 2021
B.S. in Environmental Economics and Policy, University of California, Berkeley — May 2020

Skills & Software

Methods Causal Inference; Difference-in-Differences; Instrumental Variables; Quasi-Experimental Design; Machine Learning; Econometric Modeling

Analytics Advertising Performance Analysis; Metrics Development; Data Visualization & Analytics; Geospatial Analysis; Data Governance

Tools R; Stata; Aeolus; SQL; Python; Excel; ArcGIS; Matlab; SPSS; AI-Agent Workflows

Experience

Industry Analytics

TikTok — Data Scientist Intern Jun–Sep 2026

Global Monetization Product & Technology

- Built the team's first centralized advertising dashboard in **Aeolus** (ByteDance's in-house BI platform) with 500+ charts across four business pillars, using **SQL**-based custom metrics and filters, giving 30+ managers and colleagues a shared source for tracking revenue and product performance.
- Built an **automated** daily revenue monitoring system that flags major changes, identifies the key driving advertisers, and supplies account-level product metrics for investigation; validated its first run against a manual check.
- Developed AI-agent workflows that compile historical revenue and advertising performance reports for top advertisers, reducing manual data collection for account reviews.
- Created reusable AI-agent skills for chart generation and biweekly promotional-list updates, reducing the team's manual dashboard maintenance by about four hours per week.

Causal Inference Research

Fracking Boom and High School Students' Educational Attainment

- Constructed a spatial exposure dataset in **ArcGIS** by linking shale deposits to Colorado school district boundaries and educational outcomes.
- Estimated the educational effects of the fracking boom using **difference-in-differences** in **R** and **Stata**: a significant 0.65 percentage-point reduction in dropout rates and a 0.22-point increase in ACT scores.
- Examined how estimated effects varied across gender and ethnic groups; evaluated teacher quality and school finances as potential explanations for the results.

Corn Expansion: Atrazine Exposure and Infant Health in the U.S.

- Constructed a dataset in **R** merging encrypted, restricted-use birth records with local economic data, following strict data-governance and privacy standards.
- Designed a **novel** shift-share instrumental-variable strategy to address endogeneity in farmers' decisions, using policy shocks to separate atrazine's effect on fetal health from that of other chemicals.
- Quantified the first impact of atrazine and concluded that 1 kg/km^2 increase in atrazine application resulted in a 1.3 gram decrease in average birthweight.

Work in Progress: Spraying to the Market: Price Shocks, Crop Substitution, and the Demand for Agricultural Chemicals

- Analyzing millions of price observations to investigate how changes in crop prices and input costs shape agricultural chemical use.

Teaching

Instructor of Record

Development Economics, UC Davis — Spring 2026

- Designed and delivered a 10-week course for 200 students; prepared lectures, course materials, problem sets, and examinations.
- **Supervised four** teaching assistants across eight discussion sections, established grading standards, and coordinated assessments and course administration.

Teaching Assistant

Corporate Finance (E. Edwards), UC Davis — Winter 2026, Spring 2025
Economics of Agricultural Sustainability (D. Sumner), UC Davis — Winter 2025
Economics of Business Regulation (S. Sutterland), UC Davis — Fall 2024
Development Economics (S. Boucher), UC Davis — Spring 2024, Fall 2025
Econometric Theory and Applications (E. Taylor), UC Davis — Winter 2023, Spring 2023
Agricultural Labor (E. Taylor), UC Davis — Spring 2021
Intermediate Microeconomics (R. Goodrich, K. Novan, S. Sutterland, A. Shenoy), UC Davis — Fall 2020, Fall 2021, Fall 2022, Fall 2023, Winter 2024

Other Research and Professional Activities

University of California, Berkeley — Fall 2019, Spring 2020
Undergraduate Student Researcher

- Advised by Jeffrey Perloff, Distinguished Professor of Agricultural and Resource Economics

Presentations and Conferences

Agricultural & Applied Economics Association Annual Meeting — 2026
UC Davis Natural Resource Policy Lab — 2025
Giannini Foundation of Agricultural and Resource Economics Student Conference — 2024

Fellowship

ARE Summer Research Fellowship — 2025, 2024
UC Davis ARE Grad Travel Award — 2024
UC Davis Provost's Fellowship — 2022, 2021

References

Eric Edwards (Chair) – Associate Professor
Dept. of Agricultural and Resource Economics, University of California, Davis
ecedwar@ucdavis.edu

Katrina Jessoe – Associate Professor
Dept. of Agricultural and Resource Economics, University of California, Davis
kkjessoe@ucdavis.edu

Scott Carrell – Professor
Dept. of Economics, University of Texas at Austin
scott.carrell@austin.utexas.edu

Additional Information

Certificate: Certificate for Entrepreneurship and Technology issued by UC Berkeley
Languages: English (native), Mandarin (native), Cantonese (native)
Citizenship: U.S. Citizen