

# YUJI SAIKAI

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## Education

- Ph.D., 2020 (expected)  
in Agricultural & Applied Economics with minor in Computer Science  
University of Wisconsin–Madison, USA
- Complex Systems Summer School, 2017  
Santa Fe Institute, USA
- Bachelor of Economics (Honours), 2014  
The Australian National University, Australia
- Bachelor of AgriCommerce, 2013  
Massey University, New Zealand

## References

Paul Mitchell (Economics)  
418 Taylor Hall  
(608) 320-1162, [pdmitchell@wisc.edu](mailto:pdmitchell@wisc.edu)

Vivak Patel (Statistics)  
1241 Medical Sciences Center  
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Shawn Conley (Agronomy)  
355 Moore Hall  
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Sheldon Du (Economics)  
331 Taylor Hall  
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Jun Zhu (Statistics)  
1220A Medical Sciences Center  
(608) 262-3720, [jzhu@stat.wisc.edu](mailto:jzhu@stat.wisc.edu)

Thomas Rutherford (Economics)  
323 Taylor Hall  
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## Teaching Experience

- Lecturer on Deep learning in AAE722 Machine learning in applied economic analysis | Instructor: Sheldon Du | Summer 2019
- Teaching assistant in AAE706 Applied risk analysis | Instructor: Jean-Paul Chavas | Spring 2019

## Research Fields

- Computational modeling  
Machine learning | Bayesian optimization | Anomaly detection | Agent-based modeling
- Applications  
Farm management | Precision agriculture | Agricultural systems

## Presentations

- Agricultural & Applied Economics Association (AAEA) Annual Meeting, 2017
- Agricultural & Applied Economics Association (AAEA) Annual Meeting, 2018
- Agricultural & Applied Economics Association (AAEA) Annual Meeting, 2019
- North Central Extension & Research Activity (NCERA) 180 Precision Agriculture Technologies for Food, Fiber, and Energy Production, 2019
- American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America (ASA-CSSA-SSSA) International Annual Meeting, 2019
- Annual Conference of the Australasian Agricultural and Resource Economics Society (AARES), 2020

## Research Papers

*Machine learning for optimizing complex site-specific management*

- with Vivak Patel and Paul Mitchell
- under review at *Computers and Electronics in Agriculture*
- <https://github.com/ysaikai/BOPA>

*Adaptive experimental design using Bayesian optimization to improve the cost efficiency of small plot field trials*

- with Vivak Patel, Shawn Conley, and Paul Mitchell
- under review at *PLOS ONE*
- <https://github.com/ysaikai/AEDBO>

*An agent-based model of insect resistance management and mitigation for Bt maize: A social science perspective*

- with Paul Mitchell and Terrance Hurley

- to be submitted to *Pest Management Science*
- <https://doi.org/10.1101/732776>

*A bandit algorithm for efficient on-farm research*

- with Paul Mitchell
- <https://github.com/ysaikai/MABPS>

*An agent-based model for promoting modest technologies*

- <https://github.com/ysaikai/TechAdoption>