YUJI SAIKAI

https://yujisaikai.com | ysaikai@unimelb.edu.au | +61 412 218 560

Professional Appointments

- Teaching specialist (2020 – present)
  School of Mathematics and Statistics, the University of Melbourne, Australia

Education

- PhD, 2020
  Agricultural & Applied Economics with minor in Computer Science
  The 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

Howard Bondell (Statistics)
University of Melbourne
howard.bondell@unimelb.edu.au

Christopher Duffy (Mathematics)
University of Melbourne
christopher.duffy@unimelb.edu.au

Paul Mitchell (Economics)
University of Wisconsin–Madison
pdmitchell@wisc.edu

Vivak Patel (Statistics)
University of Wisconsin–Madison
vivak.patel@wisc.edu

Jun Zhu (Statistics)
University of Wisconsin–Madison
jzhu@stat.wisc.edu

Shawn Conley (Agronomy)
University of Wisconsin–Madison
spconley@wisc.edu

Teaching Experience

- Instructor for *Systems Modelling and Simulation* | Semester 1, 2021-2022
- Tutor for
    - *Vector Calculus* | Semester 2, 2021
    - *Engineering Mathematics* | Semester 2, 2021
    - *Linear Statistical Models* | Semester 1, 2021
    - *Applied Risk Analysis* | Spring, 2019
- Guest lecturer on *Deep learning* for *Machine learning in applied economic analysis* | Summer, 2019

Research Fields

- Data-driven optimisation
- Reinforcement learning
- Precision agriculture

Research Papers

Deep reinforcement learning for precision irrigation using high-dimensional sensor feedback (in progress)

- with Karine Chenu (UQ) and Allan Peake (ex-CSIRO)

APSIM meets TensorFlow: Optimising sequential management decisions via deep reinforcement learning (in progress)

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

- with Terrance Hurley and Paul Mitchell
- published at Pest Management Science

Machine learning for optimizing complex site-specific management

- with Vivak Patel and Paul Mitchell
- published at Computers and Electronics in Agriculture

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

- with Vivak Patel, Shawn Conley, and Paul Mitchell

- https://github.com/ysaikai/AEDBO

Presentations

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