

A. John Woodill, Ph.D.

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<http://www.johnwoodill.com> || <https://github.com/johnwoodill/>

Summary

Economist/Data Scientist with experience transforming, visualizing, and modeling data to communicate results. Adaptive learner with strong analytical and technical abilities able to communicate results to both a technical and non-technical audience. Willing to take on new situations and tasks independently or as a team member.

Technical Skills

- **Statistical/Mathematical Methods:**
Non/Semi/Parametric: (P): OLS, NL (SP): GAM, PLM (NP): LCLS, LLLS, LQLS
Machine/Deep Learning: Classification, SVM, Decision Tree, Random Forest, Lasso/Ridge, KNN, PCA, Neural Networks, Recurrent Neural Networks
Dynamic Programming: Forward/Backward Recursion, stochastic DP, Jump Control
Stochastic: Markov, random-walk, weiner process
- **Programming/Statistical Languages:**
R (6yrs): tidyverse, data.table, caret, lfe, randomforest, xgboost, glmnet, neuralnet, rnn, devtools, shiny
Python (2yrs): pandas, numpy, scipy, scikit-learn, statsmodels, TensorFlow, keras
Stata (2 yrs);**SQL** (1 yr);**SAS** (1 yr);**Matlab** (1 yr)
- **Tools:**
Docker, Shiny, Travis CI unit testing, Jupyter, RMarkdown, MS Office, LaTeX, Dropbox, Git, Stackoverflow, AWS, Google Cloud

Experience

Independent Research/Data Science Projects Jan 2016 – Current

- Historical Fine-scale Weather: relative-anomaly spline interpolation technique - 460,000 grids from 1900-2015.
- Nonlinear Temperature Libraries: Developed R/Python libraries to calculate nonlinear temperature distributions.
- Fractional Multinomial Logit R Library: Collaboration through bug fixes and performance improvements.
- Neural Network: improved predictions of US corn yields by 20% decrease in RMSE over conventional models.

University of Hawaii at Manoa Honolulu, HI
Research Assistant Jan 2014 – Current

- Research, design, and implement statistical/mathematical models to estimate the impact of an invasive species to Hawaiian coffee, the coffee berry borer.
- Collaborate closely with economic research team, research scientists, coffee farmers, and stakeholders to estimate economic damage to coffee production and optimize decisions to reduce infestation levels.
- Develop tools for farmers to evaluate farm-level decisions to improve economic outcomes and decisions.
- Presented research results to local farmers at coffee conferences in Hawaii, UH CBB Coffee Summits, USDA policy makers, and the United Nations Food and Agricultural Organization (UNFAO).

SDSU Social Science Research Laboratory San Diego, CA
Research Assistant 2012

- Collect, transform, and interpret survey data to provide results for university administration projects.
- Collaborate with local communities and businesses to collect survey data and provide feedback on results.

Education

University of Hawaii at Manoa Honolulu, HI
Ph.D. Economics 2013 – 2018
Fields: Environmental and Resource, Finance, International

University of Hawaii at Manoa Honolulu, HI
M.A. Economics 2013 – 2015

San Diego State University San Diego, CA
B.A. Economics – Quantitative Analysis 2010 – 2013
Summa Cum Laude

Curriculum Vitae

A. John Woodill

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Natural Resources and Environmental Management
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Honolulu, Hawaii 96822

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Education

University of Hawaii at Manoa <i>Ph.D. Economics</i> <i>Fields: Environmental and Resource, Finance, International</i>	Honolulu, HI 2013—Current
University of Hawaii at Manoa <i>M.A. Economics</i>	Honolulu, HI 2013—2015
San Diego State University <i>B.A. Economics—Quantitative Analysis</i> <i>Summa Cum Laude</i>	San Diego, California 2010—2013
San Diego Mesa/City College <i>A.S. Computer and Information Science</i> <i>Certificate of Performance in Communication Studies</i>	San Diego, California 2008—2010
Community College of the Air Force <i>Civil Engineering</i>	Global 2000—2004

Experience

Graduate Research Assistant, Natural Resources and Environmental Management, University of Hawaii at Manoa, 2014 - Current

Graduate Student Instructor, Economics 358: Environmental Economics, University of Hawaii, 2017

Research Analyst, Geographical Indication of Kona Coffee, Food and Agriculture Organization of the United Nations (FAO), 2015

Research in progress

Adaptation to Climate Change: Disentangling Revenue and Crop Choice Responses

The American Dust Bowl and Long-run Productivity Shocks from Weather

Optimal Harvesting and Spraying Strategies to Combat CBB: A Dynamic Approach

U.S. Census Analysis of the Impact of CBB to Hawaii coffee (2007 and 2013)

Nonlinear Temperature Effects and Short-run Adaptation of the Dust Bowl Region during the 1930s

Optimal water extraction in California's central valley under snow pack uncertainty

Publications

Woodill, A. John, Nakamoto, S. T., Kawabata, A. M., Leung, PingSun. "To Spray or Not to Spray: A Decision Analysis of Coffee Berry Borer in Hawaii." *Insects* (2017): 1-16

Woodill, A. John, Dilini Hemachandra, Stuart T. Nakamoto, and PingSun Leung. "The Economics of Coffee Production in Hawai'i." *Economic Issues* 25 (2014): 1-9.

Richardson, G. Manning, Janet Bowers, **A. John Woodill**, Joseph R. Barr, Jean Mark Gawron, and Richard A. Levine. "Topic Models: A Tutorial with R." *International Journal of Semantic Computing* 8, no. 01 (2014): 85-98.

Presentations

World Congress of Environmental and Resource Economists (2018); University of Hawaii at Manoa (UHM) Microeconomics Workshop (2016, 2017, 2018); UHM, CTAHR/COE Student Research Symposium (2016); Coffee Berry Borer Conference (2016); UHM, Seminar in Energy and Environmental Policy (2015, 2016); Komohana Research and Extension Center, Coffee Berry Borer Summit (2016); VetAgro Seminar of EIDER/METAFORT Team, Clermont-Ferrand, France (2015); World Expo: Forum Origin, Diversity, and Territories, Milan, Italy (2015); Università Cattolica del Sacro Cuore of Piacenza, Piacenza, Italy (2015)

Service

Referee, Journal of the European Economic Association, Environmental Research Letters

Member, Association of Environmental and Resource Economists, Agricultural & Applied Economics Association