Ben Ewing

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Education

M.S. Economics and Computation 2018 – 2020
Duke University
Relevant Coursework: AI, Algorithms, Econometrics, Computational Microeconomics, Machine Learning

B.A. Economics and Mathematics 2011 – 2015
University of California, Santa Cruz
Relevant Coursework: Econometrics, Game Theory, Linear Algebra, Probability and Statistics, Real Analysis.

Experience

Graduate Teaching Assistant January 2020 – Present
CompSci 216: Everything Data, Duke Computer Science Department

Graduate Research Assistant August 2019 – Present
DevLab@Duke

- Write and maintain an R package for survey programming and testing.
- Design Shiny dashboards to monitor data quality during data collection.
- Data cleaning and analysis to identify causal program impacts using R and Stata.

Data Science Intern June 2019 – August 2019
Enterprise Analytics and Data Science, Wells Fargo

- Analyzed thousands of loans using supervised and unsupervised techniques with Spark, Pandas, and scikit-learn.
- Designed a set of algorithms in Python to optimally structure large loans involving many lenders.
- Built an API and web interface using Flask to expose tools to banking analysts.

Data Scientist August 2015 – September 2018
The Cloudburst Group

- Worked on impact evaluations of 5 land-related U.S. Agency for International Development projects.
- Trained and managed data collection teams of up to 30 people in Liberia and Zambia.
- Wrote Shiny dashboards and automated R Markdown reports to monitor incoming data quality.
- Used regression analysis to detect causal program impacts.
- Implemented several methods (among others: clustering, random forests, PCA) to attain deeper insights.
- Reported, visualized (using ggplot2), and presented results to stakeholders.

Selected Projects and Research

Software: XLSFormTools (GitHub)
XLSFormTools is an R package which defines an embedded domain specific language for writing electronic surveys conforming to the XLSForm standard. Typically XLSForm surveys are programmed in Excel (which is parsed to XML), which precludes the use of version control systems like Git and makes collaboration difficult (sharing Excel sheets is not fun). This package solves both of these issues by allowing users to write surveys in plain text.

Paper: Elections and Perceptions of Land Tenure and Governance in Zambia (Presentation)
Poster: American Political Science Association Annual Meeting, 2018
Presentation: World Bank Land and Poverty Conference, 2018
Measured the impact of elections on land security and investment. Data was integrated from many sources, including farmer surveys, multiple GIS datasets, and elections data from the Electoral Commission of Zambia.

Skills

Software: Git, LaTeX, Julia, Python (matplotlib, NumPy, pandas, scikit-learn, PyTorch), R (dplyr, ggplot2, Rcpp, R Markdown, Shiny, tidyr), Stata, SQL.
Methods: AI, causal inference, machine learning, supervised and unsupervised learning, survey and experiment design.