PHIL HENRICKSON, PHD

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EDUCATION

Florida State University Tallahassee, FL
Doctor of Philosophy: Political Science
Dissertation: *Applied Predictive Modeling for Measurement and Inference in International Conflict and Political Violence*

Texas A&M University College Station, TX
Bachelor of Science: Political Science

SUMMARY

Data Scientist with academic research background and years of industry experience in a client-facing role. Demonstrated experience in scoping, developing, and delivering data/analytics projects, with an emphasis on **predictive modeling**, **causal inference**, and **data visualization**. Accomplished speaker with featured talks at conferences and enterprise organizations throughout the state of Wisconsin.

SKILLS

Languages and Tools
- *proficient:* R, Git/GitHub, SQL, Quarto, RMarkdown, GCP, Shiny, Tableau, Alteryx
- *intermediate:* Python, Docker, AWS/Azure, SAS

Selected Coursework - Applied Machine Learning, Causal Inference, Statistical Learning, Maximum Likelihood Estimation, Time Series, Research Design, Survey Design

EXPERIENCE

AE Business Solutions 2019-Present
Data Scientist Madison, WI

- Work in a client-facing, project delivery role for data science and analytics use cases across a variety of industries in the public and private sector
- Building and deploying predictive models to guide decision making for business managers and executives
- Assessing and auditing models for model performance, fairness, and bias
- Delivering hands-on training and "office hours" advising for clients and organizations on topics within the fields of data science and visualization

AE Business Solutions 2018-2019
Business Intelligence Engineer Madison, WI

- Developing interactive dashboards and data visualizations to communicate insights and statistical methods to general public
- Training business and data analysts in research methods, data preparation, and data visualization (R, Alteryx, Tableau)

Florida State University 2013-2018
Research Assistant Tallahassee, FL

- Performed statistical modeling in R and Stata for prediction and hypothesis testing in social science research.
- Assisted professors by collecting, cleaning, and preparing data sets for data visualization and presentation in academic research papers.
- Literature reviews of sub fields in international relations, comparative politics, statistics, and computer science.

Instructor

- Created original syllabi and lecture materials for Political Violence, Civil Wars, and International Relations classes.
- Assigned semester-long research papers, working with students to develop their academic writing skills and mentor their applications for graduate school.
- Taught programming with R to graduate students and held supplementary sessions for statistical modeling and programming.

RESEARCH

Predicting the Costs of War. *Journal of Defense Modeling and Simulation.* Special Issue on Forecasting in the Social Sciences for National Security (J17-1). January 2020.

PERSONAL PROJECTS

In my free time I frequently work on side projects to explore new methods and techniques for my work as a consultant (which I cannot show). The following projects are examples of projects I am working on.

Predicting Upcoming Board Games 2022-2023

- Created R package for collecting BoardGameGeek (BGG) data to train predictive models at the BGG community level (complexity, average rating, etc) for upcoming board game releases
- Trained predictive models for individual users to recommend new games to individuals based on their collections.
- Developed pipelines to collect data on upcoming releases and deliver predictions from a suite of models (penalized linear regressions, xgboost, lightgbm) via GitHub Actions, Google Cloud Storage, and Quarto

College Football Predictions and Rankings 2024

- Estimating opponent-adjusted team offensive/defensive efficiency for all FBS teams at the weekly level using play by play data and predicted points added per play.
- Use team efficiency ratings as inputs into my (Bayesian) game prediction model to estimate team ratings and simulate upcoming college football games.