

# PHIL HENRICKSON, PHD

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## EDUCATION

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### 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

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Data Scientist with academic research background and 6 years of experience in a client-facing role. 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

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### 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

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### 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, public and private sector
- Building and deploying predictive models to guide decision making for business managers and executives
- Assessing and auditing predictive 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

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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.

## SELECTED PROJECTS

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## *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](#).