DAVID RAYMOND KEARNEY

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SKILLS

- **Languages**: Python, R, SQL, Unix/Bash, Git.
- **Tools**: NumPy, pandas, Jupyter notebooks, LaTeX, Sublime Text, tidyverse, exposure to scikit-learn, Keras, Tensor Flow.
- **Techniques**: Hypothesis Testing, A/B testing, Causal Inference, Experimental Design, Regression, exposure to Classification, Feature Engineering.

PROJECTS

Analysis of Chinese Economic and Fiscal Data

- Investigated the relationship between political connections & the distribution of fiscal transfers.
- Retrieved & cleaned data from multiple data sources & stored them in a database with 35K+ observations & over 100 features combining biographical data of Chinese politicians with fiscal & economic metrics from China's 32 provincial-level unit & 2.8K+ county-level units using Python, NumPy, pandas, Jupyter notebooks, R, & dplyr.
- Employed linear & logistic regression analysis to illustrate prevalent model misspecification issues in the literature arising from failure to incorporate mediation effects into regression models.

Analysis of Chinese Development Assistance to Africa

- Employed R to engage in linear & logistic regression analysis on database of 1,952 Chinese development finance projects in 3,545 locations in 50 African states between 2000-2011.
- Combined & analyzed with public opinion metrics derived from representative sample of African citizens covering the same period.
- Implemented data cleaning, management of multiple data sources & visualization with GIS tools & ggplot2.

Protest Forecasting Models

- Used R & SQL database queries from ICEWS event database of over 150,000 observations to formulate predictive models of protests.
- Deployed quasi-poisson predictive models to identify features of predictive importance for individual countries. Generated models which predicted the number of protests which would happen in a given month & country.

Lending Club Loan Payment Prediction

- Developed a predictive model on Lending Club data to predict loan repayment using MySQL, Pandas, scikit-learn, Matplotlib & seaborn.
- Merged, cleaned & anaylzed a database of 1M+ customers. Trained & validated a random forest regression model on a sample of 800K+ customers to predict the percentage repaid over the course of the loan.
- Model could improve precision of Lending Club's calculation of return on investment & for evaluating interventions to help with repayment & identify which interventions to scale up.

EXPERIENCE

Data+

2018 | Durham, NC

- Acted as project manager & graduate student mentor for research team of Duke University undergraduates on interdisciplinary Data Science Research Team.
- Provided coding guidance in Python, R, & GIS.

Ph.D. Candidate and Teaching Assistant

2013 - 2018 | Durham, NC

- Acted as a teaching assistant for 4 Political Science courses for 200 undergraduates.
- Organized 15 Political Science workshops. Invited distinguished professors from other universities. Each workshops had 30-40 attendees including faculty & students.

EDUCATION

Ph.D. in Political Science

Duke University

May 2019 | Durham, NC

M.A. in Political Science

Duke University

May 2016 | Durham, NC

B.A. in Political Science & International Studies

Summa Cum Laude

Iowa State University

May 2012 | Ames, IA

HONORS & AWARDS

- Emerging Leaders Institute (Selective Professional Development Program), Duke Graduate School, 2018
- James B. Duke International Research Travel Fellowship (Selective Award for Dissertation Research), 2016
- Society of Duke Fellows (Selective Honor Society for Duke Graduate Students), 2016