github
website
linkedin

Dominique Lockett

Ph.D Candidate/Computational Scientist

St. Louis, MO
618.954.6277
domlockett91@gmail.com

A computational scientist with methodological contributions ranging from designing experiments and automated ETL pipelines to optimizing, explaining and visualizing complex models using the most modern tools in R and Python. An exceptional candidate for those seeking a scientist with rigorous training in probability theory and statistics and hands-on experience with modern machine and deep learning methods.

Skills

Programming Languages	Python | R | MATLAB
Web Technologies & Databases	JavaScript | HTML | CSS | PostgreSQL | MySQL | SQLite | RSQLite
Frameworks & Libraries	Jupyter | BeautifulSoup | Numpy | Pandas | Scikit-learn | sqlalchemy | TensorFlow | PyTorch | Keras | XGBoost | LightGBM
Tools, Software & Formatting	ArcGIS | Stata | Git | LaTeX | MarkDown

Awards and certificates

Research seed grant	Washington University in Saint Louis	November 2020
Diversity fellowship	Saint Louis University	June 2016
Fundamentals of G.I.S.	University of California, Davis	September 2020

Projects

How news shapes discourse: Collected and analyzed Tweets from news organizations **June 2020-present**

Big data, causal inference, data engineering, political communication

- Collected a novel dataset of Twitter posts and comments to explore variation in communication styles across 30 different professional news outlets
- Implemented extract, transform, load pipeline that processed 100+ gb of data using Python tools such as Twitter API v2, `requests`, `json`, `SQLalchemy` (SQLite) and `nltk`
- Automated collection and cleaning tasks to allow multiple colleagues to contribute to the data collection process
- Analyzed data using methods such as sentiment analysis, cosine similarity and latent dirichlet allocation
- Contributed to forthcoming book project by demonstrating the real world implications of different news organization features using causal inference methods

What is a political advertisement?: two experiments on public opinion **December 2021**

Data engineering, data visualization, conjoint experiment, political advertising

- Explored what makes a social media advertisement political according to users
- Transformed and analyzed data to determine preferences toward social media (political) advertising regulation using a conjoint experiment and a survey experiment
- Translated complex statistical outcomes into appealing and easy-to-understand visualizations
- Managed data from receipt until recent submission for review at Proceedings of the National Academy of Sciences of the United States of America (PNAS)

Predicting heterogeneous treatment effects using ensemble Bayesian model averaging (EBMA): Tuning hyper-parameters for improved election predictions **July 2022**

machine learning, ensemble models, Bayesian statistics, predictive models, misinformation

- Predicted how well individuals' can identify fake news headlines with a randomly assigned intervention displaying Facebook's 'Tips to Spot Fake News'
- Implemented methods including LASSO, Elastic Net, Bayesian GLM, BART, Random Forest and SVM-SMO
- Adjusted hyper-parameters for best prediction across models and pooled the results to attain an ensemble prediction
- Demonstrated success of colleagues' R package (`EBMAforecast`) in predicting heterogeneous treatment effects and presented as poster at The Society for Political Methodology's Annual Conference

Misinformation and in-group corrections: Designing and implementing survey experiment **September 2022**

research design, data analysis, data visualization, grant writing, misinformation

- Designed a novel experiment relying on fake Facebook posts to analyze if/when corrections to misinformation are effective
- Prepared and submitted documents for IRB approval and pre-registration of our experimental expectations
- Implemented a pilot survey to refine the research questions before distributing the survey to a nationally-representative sample that included an oversampling of Black and Latino participants

"Fake news" may have limited effects: Analyzing real-world and survey data **July 2022**

research design, data analysis, data visualization, publication, misinformation

- Designed a novel experiment relying on experimental and observational data to observe traits causally related to belief in misinformation
- Analyzed and visualized observational data related to participants' web traffic
- Prepared and submitted research data to Harvard Dataverse repository to allow for transparency in our methods and findings

Experience

Instructor: Introduction to Python for Data Analysis **June 2020 — Present**

Washington University in Saint Louis — Saint Louis, MO

- Created curriculum and materials for a virtual learning environment
- Instructed students on facets of Python, git, JupyterLab and other relevant technologies
- Evaluated students' progress via designed assessment tasks
- Adjusted instructional needs to meet the needs of students with a wide range of coding experience

Vice Chair of Special Business District **March 2021 — December 2022**

Tower Grove South — Saint Louis, MO

- Helped oversee the allocation of property taxes towards safety and cleanliness measures in the Saint Louis neighborhood Tower Grove South
- Redesigned and maintain the special business district's website for a more streamlined and informative interface
- Attended monthly meetings and field questions from the public about the progress of neighborhood improvement projects and services

Assistant in Instruction — **August 2018 — December 2021**
Washington University in Saint Louis — Saint Louis, MO

- **Digital Politics Social Media and Misinformation**
- **Quantitative Political Methodology**
- **Political Data Science**
- **Immigration, Identity and the Internet**
- Constitutionalism
- Justice Virtue and the Soul
- Theories of Social Justice

Publications

Guess, Andrew, Dominique Lockett , Benjamin Lyons, Brendan Nyhan, Jacob M. Montgomery, and Jason Reifler. 2020. "'Fake news' may have limited effects beyond increasing beliefs in false claims." The Misinformation Review.

Edelson, Laura, Dominique Lockett , Jacob Montgomery, Damon Mccoy, Tobias Lauinger, Celia Guillard"US Public Opinion Towards Platform Regulation of Political Advertisements: Discontent and Consensus for Reform" (Forthcoming)

Lockett, Dominique. Using Objectivity to Improve Argument Evaluations. (Forthcoming)

Education

Ph.D. in Political science	Washington University in Saint Louis	August 2017 — May 2023
M.A. in Political Science	Saint Louis University	August 2016 — May 2017
B.A. Political Science (Cum Laude)	Saint Louis University	August 2013 — May 2016
A.A. Communication	Ivy Tech Community College	August 2009 — May 2012