Nick Hemauer

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SUMMARY

Published Ph.D. candidate and social scientist with a strong background in inferential and predictive statistics. Skilled in machine learning, natural language processing, regression, and survey science. Experienced with R, Python, SQL, agentic AI tools, and cloud computing. Excellent and proven problem-solving, communication, and collaboration abilities. Considerable experience producing and designing empirical analyses independently and with limited direction.

EDUCATION

Penn State — State College, PA
Ph.D. Political Science and Social Data Analytics — *Aug 2024 – Fall 2026*
- My dissertation applies machine learning to state politics

Penn State — State College, PA
M.A. Political Science — *Aug 2022 – Aug 2024*

University of Minnesota — Twin Cities, MN
B.A. Political Science and Global Studies; Minor in History — *Aug 2020 – May 2022*

WORK EXPERIENCE

Predoctoral Research Fellow — Sep 2025 – May 2026
Center for Social Data Analytics — *State College, PA*
- Planned and led co-authored peer-reviewed empirical research to predict state policy adoptions
- Evaluated current models against methods including random forests and XGBoost using R and Python
- Defended methodological decisions regarding hyperparameter tuning and evaluation metrics
- Archived our analysis with Git and used Bash to work with cloud compute
- Applied agentic AI tools to streamline replication and data processing steps
- Presented and defended the implications of our work to technical and non-technical audiences

Research Assistant and Data Analyst — Aug 2024 – May 2025
Penn State — *State College, PA*
- Independently researched police brutality in the United States
- Worked through data limitations and compiled several datasets from structured and unstructured data
- Used R and Stata to replicate previous study results
- Fit and specified several models for inference using regression

Graduate Polling Assistant — Jul 2023 – Aug 2024
Mood of the Nation — *State College, PA*
- Led the data collection and labeling pipeline for a private IRB-protected national survey
- Developed and deployed DeBERTa using PyTorch to automate data processing
- Fine-tuned the model using cloud compute
- Achieved machine accuracy comparable to human coders, reducing time spent on manual labeling
- Communicated findings with directors and managed several undergraduate research assistants

Legislative Intern — Jan 2021 – May 2021
MN State Legislature — *St. Paul, MN*
- Researched Minnesota policy issues and responded to constituents for State Sen. Greg Clausen

PEER-REVIEWED & ONGOING RESEARCH

The Diffusion of State Firearm Regulations — *State Politics and Policy Quarterly*
Hemauer (2026)

Analyzing Public Support for School-Based Mental Health Services — *Journal of Health Politics, Policy and Law*
Hemauer & Warner (2025)

GenAI vs. Human Fact-Checkers: Accurate Ratings, Flawed Rationales — *ACM Conference on Web Science 2025*
Tai, Patni, Hemauer, Desmarais, and Lin (2025)

Our Models are Out of Line: A Predictive Assessment of Policy Diffusion Models — *Submitted to Journal*
Hemauer, Saunders, and Desmarais

An Examination of Response Length Bias in Supervised Text Classifiers — *In Progress*
Hemauer

Assessing Temporal Heterogeneity in Political Science Panel Data — *In Progress*
Hemauer and Desmarais

PERSONAL PROJECTS

Google Cloud Web Application (nickhemauer.com/taxi, repo) | *GCP, BigQuery, Agents, ML, Python*

- Built and deployed a personal website on Firebase showcasing an NYC taxi fare app built with BigQuery
- Engineered an ETL pipeline with CI/CD that automatically ingests weekly NYC taxi data updates
- Developed an LLM agent that answers natural-language questions by querying the BigQuery data
- Trained fare prediction and forecasting models in scikit-learn and provided them to the agent as tools
- Cached prediction and forecast results in a SQL table to avoid recomputing repeat requests
- Set up GitHub Actions to automatically update the website when a change is pushed to the repo

Spotify Data Dashboard (nickhemauer.com/spotify) | *Python, Data Visualization*

- Aggregated eight years of my personal Spotify streaming history into a tidy and visually compelling interactive dashboard.
- The dashboard covers my top artists, songs, and listening habits.

Gemini API Tutorial (repo) | *Python, Jupyter, GCP, LLM APIs*

- Wrote and presented a tutorial to the Social Science Research Institute (SSRI) on using the Google Gemini API for LLM-based text classification

REFERENCES

Dr. Bruce Desmarais — Professor of Political Science & Social Data Analytics, Penn State
bdesmarais@psu.edu

Dr. Michael Nelson — Professor of Political Science, Penn State
mjn15@psu.edu

Dr. Tracee Saunders — Assistant Professor of Political Science, Penn State
traceesaunders@psu.edu