Dylan Pieper

Profile

I am a data scientist who integrates data engineering and software development with cultural and behavioral insights to improve public health and criminal justice outcomes. I develop tools ranging from descriptive analytics and statistical models to web applications. As a polyglot, R and Python are my primary languages. I collaborate with cross-functional teams to build human-centered solutions that balance social impact with scalable architecture. My curiosity inspires me to explore new technologies in machine learning and contribute to open-source communities.

Experience

Data Scientist - Program Evaluation and Research Unit (PERU), University of Pittsburgh, Pittsburgh, PA

Sep 2021 - Present

- Lead data science initiatives for substance use treatment, public health, and criminal justice projects
- Direct data strategy with cross-functional teams including healthcare providers, researchers, and IT departments
- Support supervision of a team of 3–5 analytics staff, including recruitment, professional development, and technical mentorship
- Implement data pipelines integrating data from 250+ healthcare sites
- Architect and maintain relational databases that integrate health records, surveillance data, and operational data
- Develop ETL workflows using R and SQL to automate data processing and reduce manual errors
- Engineer automated reports, web applications, and dashboards for healthcare providers and researchers deployed on university servers
- Build advanced statistical models using mixed-effect regression and survival analysis methods
- Author peer-reviewed research manuscripts, technical documentation, and data governance protocols

Field Interviewer - NORC at the University of Chicago, Chippewa Falls, Wisconsin

Aug 2021 - Nov 2021

- Conducted in-person interviews with research participants, recording responses using standardized survey instruments and protocols
- Traveled to various locations within an assigned geographic area to complete interviews, managing my schedule while meeting individuals for data collection
- Maintained confidentiality of all participant information and adhered to strict research ethics and data security procedures

Personal Information

Madison, Wisconsin
dylanpieper@gmail.com
https://dylanpieper.github.io/

Professional Skills

Data Science Core
R, R Markdown, Quarto, Shiny

Database Architecture
MySQL, PostgreSQL, DuckDB

Data Engineering & DevOps
GitHub, Docker, APIs, Azure, Linux (RHEL)

Large Language Models
Claude, Claude Code, OpenAI, Ollama, DeepSeek

Research & Evaluation Tools
Tableau, Qualtrics, REDCap

Front-End Development
React, Bootstrap, Observable, SurveyJS

Transferable Skills
Object-Oriented Programming, Functional Programming, Package Development

Experience

Research Specialist - Culture Lab, University of Maryland, College Park, MD

Aug 2020 - Aug 2021

- Analyzed and published data on COVID-19 deaths across 57 countries and their relationship to social norms using multilevel statistical models
- Ran two experiments testing different nudges, or message framing effects, for wearing masks and forecasted the utility of these interventions
- Developed a natural language processing (NLP) Shiny app to detect threatening language and compare levels across texts (https://www.michelegelfand.com/threat-dictionary)

Writing Coach - University of Northern Iowa, Cedar Falls, IA

Aug 2017 - May 2020

- Coached students in writing (CRLA certified) and statistics, providing personalized guidance to meet their needs and improve their academic performance
- Supported English Language Learners (ELLs) in improving their writing skills and language proficiency
- Coached students from diverse and non-traditional backgrounds, including students with learning disabilities
- Trained new tutors and designed comprehensive training materials to ensure effective tutoring practices
- Delivered lectures on academic integrity, plagiarism prevention, and essay writing
- Conducted outreach initiatives in classrooms and at student registration events to promote tutoring services and academic resources

Education

Master of Arts - Social Psychology - Unviersity of Northern Iowa, Cedar Falls, Iowa

2018 - 2020

- Thesis: "Challenging Social Systems Under the Threat of Pollution" (https://scholarworks.uni.edu/etd/1028/)
- Worked as a Research Assistant in the Psychoneuroendocrinology Lab and Teaching Assistant in undergraduate psychology courses
- Completed courses Statistical Computing I and II to learn base R methods
- Awarded research and travel funds from the university totaling $1,800

Bachelor of Arts - Psychology - University of Northern Iowa, Cedar Falls, Iowa

2014 - 2018

Publications

- **Pieper, D. J.**, McNeill, J. M., Chirdon, C. R., Moore, D. W., Wang, E.-H., Raby, S., & Cloutier, R. M. (in preparation). Racial disparities in Pennsylvania's criminal justice system: Analyzing prosecutorial and judicial decision-making.

- Gelfand, M. J., Jackson, J. C., Pan, X., Nau, D., **Pieper, D.**, Denison, E., Dagher, M., Van Lange, P. A. M., Chiu C., & Wang, M. (2021). The relationship between cultural tightness–looseness and COVID-19 cases and deaths: A global analysis. *The Lancet: Planetary Health*. https://doi.org/10.1016/S2542-5196(20)30301-6

- Gelfand, M. J., Li, R., Stamkou, E., Denison, E., Fernandez, J., Choi, V., Chatmen, J., Jackson, J. C., **Pieper, D.**, & Dimant, E. (2021). Persuading conservatives and liberals to comply with mask-wearing: An intervention tournament. *Journal of Experimental Social Psychology*. https://doi.org/10.1016%2Fj.jesp.2022.104299

- Dimant, E., Clemente, E. G., **Pieper, D.**, & Azevedo, F. (2022). Politicizing mask-wearing: Predicting the success of behavioral interventions among Republicans and Democrats in the U.S. *Scientific Reports*, 12, 7575. https://doi.org/10.1038/s41598-022-10524-1

- **Pieper, D.** (2020). Challenging social systems under the threat of pollution: Replication and extension of Eadeh and Chang (2019) (Publication No. 1028) [Master's thesis, University of Northern Iowa]. *UNI ScholarWorks*. https://scholarworks.uni.edu/etd/1028

R Packages

- **redquack**: Read REDCap project data and insert it into a DuckDB database in batches, which limits memory usage for big datasets (https://dylanpieper.github.io/redquack/)

- **hellmer**: Batch process chats for large language models supported by ellmer (https://dylanpieper.github.io/hellmer/)

- **samesies**: Compare lists of texts, factors, or numerical values to measure their similarity (https://dylanpieper.github.io/samesies/)

- **shinysurveyjs**: Integrate SurveyJS with Shiny to interface with a PostgreSQL database and create dynamic survey experiences (https://dylanpieper.github.io/shinysurveyjs/)