

Dylan Pieper

Data Scientist and Social Psychologist

Profile

I develop data science solutions that build community, improve health and well-being, and support social change. Using R and Python, I build tools that translate data into insight—through descriptive analytics, statistical modeling, geospatial mapping, and web application and API development. I take a human-centered approach with cross-functional teams to balance impact with scalability. My curiosity inspires me to explore new technologies in machine learning and contribute to open-source communities.

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

Statistics (Bayes and NHST),
Object-Oriented Programming,
Functional Programming,
Package Development

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 justice reform projects
- Direct data strategy with cross-functional teams including healthcare providers, implementation teams, researchers, and IT departments
- Support supervision of a team of 3–5 analytics staff, including recruitment, professional development, and technical mentorship
- Design and implement data pipelines integrating data from 250+ healthcare sites
- Architect and maintain SQL databases that integrate health records, multiple tracking systems, and rich geographic 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
- Evaluate data collection instruments through psychometric methods and pilot studies
- Build advanced statistical models using mixed-effect regression and survival analysis methods
- Author peer-reviewed research manuscripts, technical documentation, and data governance protocols

Experience

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

Research Specialist - Michele Gelfand's 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 - University of Northern Iowa, Cedar Falls, Iowa

2018 - 2020

- Thesis: "Challenging Social Systems Under the Threat of Pollution" (<https://scholarworks.uni.edu/etd/1028/>)
- Completed courses Statistical Computing I and II to learn base R
- Worked as a Research Assistant in the Psychoneuroendocrinology Lab
- Worked as a Teaching Assistant in undergraduate psychology courses (Introduction to Psychology, Biopsychology, and Psychology of Gender)
- 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., Chiridon, 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](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**: Transfer REDCap data to DuckDB with minimal memory overhead, designed for large datasets that exceed available RAM (<https://dylanpieper.github.io/redquack/>)
- **hellmer**: Enable sequential and parallel processing for all chat models and features supported by ellmer, favoring speed and feedback with response streaming over delayed responses from batch APIs, which are cheaper but slower and not supported by all LLM providers (<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/>)