Dylan Pieper

Data Scientist

Profile

Dylan Pieper's work bridges data science, software engineering, and research. He analyzes complex datasets ranging from health records to criminal case data, while building practical business tools for grant and staff management. He develops software solutions for qualitative analysis using large language models, optimizes big data workflows with REDCap and DuckDB, and creates custom survey platforms with Shiny and SurveyJS. His research explores the intersections of cultural norms and public health, substance use and harm reduction, and political shifts and threat management.

Personal Information

He/Him
Madison, Wisconsin
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https://dylanpieper.github.io/

Core Competencies

Soft Skills
Cross-functional Collaboration,
User Support & Feedback,
Interviewing,
Technical Communication,
Data Tool Strategy &
Roadmap Planning

Data Tools
R, Python, Quarto, Shiny,
Qualtrics, Tableau, SPSS, JASP,
Package and API Development

Infrastructure Tools
SQL (MySQL, PostgreSQL, DuckDB),
REDCap, Git, GitHub, Sentry,
Docker, Azure, Linux (RHEL)

Experience

Data Scientist - School of Pharmacy, University of Pittsburgh, Pittsburgh, PA

Sep 2021 - Present

- Lead data strategy and technical roadmaps for health and justice reform grants with researchers, training and technical assistance specialists, healthcare providers, public servants, and IT departments
- Conduct research and evaluation for quality improvement through mixed-methods, including statistical modeling, psychometrics, key informant interviews, and user observation and feedback
- Develop and deploy data tools including automated reports, surveys applications, and dashboards for healthcare providers and researchers, managing the full product lifecycle
- Design and build data integrations connecting 250+ treatment centers using REDCap, and automated ETL workflows using R and DuckDB
- Architect and maintain SQL databases that integrate project data with entity relationships and operational and geographic data
- Promote data tool adoption and knowledge sharing through dissemination and technical documentation, expanding reach from partners to research communities
- Co-manage team of 3-5 data staff, including recruitment, professional development, and mentorship

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

Aug 2021 - Nov 2021

- Conducted structured interviews with research participants across diverse geographic locations, building rapport and ensuring high-quality data collection using standardized survey instruments and protocols
- Managed project coordination and logistics including scheduling, travel planning, and participant communication to ensure successful data collection across assigned geographic areas
- Maintained strict data governance and research ethics standards, ensuring confidentiality and security protocols throughout the participant interactions

Experience

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 and statistics, providing personalized guidance based on individual needs assessment to improve academic performance across diverse learning styles

- Trained new tutors and developed training materials to ensure consistent, effective tutoring practices and knowledge transfer across the team

- Conducted outreach in classrooms and registration events to promote tutoring services and connect students with academic support resources

- Applied evidence-based pedagogical frameworks including Bloom's taxonomy and Csikszentmihalyi's flow state model to optimize student learning experiences

- Supported diverse student populations including English Language Learners and students with learning disabilities, adapting approaches to meet varied accessibility needs

Education

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

2018 - 2020

- Completed courses Statistical Computing I and II in R programming

- 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

- Thesis: "Challenging Social Systems Under the Threat of Pollution" (https://scholarworks.uni.edu/etd/1028/)

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

2014 - 2018

Publications

- 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) [Master's Thesis, University of Northern Iowa]. *UNI ScholarWorks*. https://scholarworks.uni.edu/etd/1028

Presentations

- **Pieper, D.** (2025, September). Scaling up LLM chats using ellmer. *posit::conf*. (Upcoming talk).

- **Pieper, D.** (2025, June). redquack: An R package for memory efficient REDCap-to-DuckDB workflows. *R/Medicine*. https://r-consortium.org/posts/redquack-an-r-package-for-memory-efficient-redcap-to-duckdb-workflows

- Katie, W. & **Pieper, D.** (2024, June). The Pennsylvania medications for opioid use disorder (PA MOUD) technical assistance and quality improvement expansion project. *Rural Health Information Hub*. (Online resource). https://www.ruralhealthinfo.org/project-examples/1139

- **Pieper, D.**, Gelfand, M. J., & Denison, E., (2021, February). COVID-19: Meta-norms to wear masks and social distance in the U.S. *Society for Personality and Social Psychology*. (Remote poster session). https://osf.io/y8cug

- **Pieper, D.**, Hirano, H., & Harton, H. C. (2020, April). The effect of environmental threats and terrorism/violent-crime threats on political orientation and attitudes. *Midwestern Psychological Association Conference*. Chicago, Illinois. (Conference canceled) ... Also (2020) at the *University of Northern Iowa's College of Social and Behavioral Sciences Conference*. Cedar Falls, Iowa. (Conference canceled). https://osf.io/3n7r8

Presentations

- **Pieper, D.** (2020, February). Challenging the system under the threat of pollution: Low system justification mediates a liberal political shift. *Society for Personality and Social Psychology.* New Orleans, LA. (Poster session) ... Also (2020) at the *University of Northern Iowa's College of Social and Behavioral Sciences Conference.* Cedar Falls, Iowa. (Conference canceled). https://osf.io/v7nez

- **Pieper, D.** (2019, April). What's in a name? Measuring the potential influence of medical cannabis labels on attitudes toward its use. *Iowa Psychological Association Conference, Des Moines, Iowa.* (Poster session) ... Also (2019, April) at the *University of Northern Iowa's College of Social and Behavioral Sciences (CSBS) Conference.* Cedar Falls, Iowa. Awarded Best Oral Presentation (2nd place, $250). https://scholarworks.uni.edu/agss/2019/all/18

- **Pieper, D.**, DeSoto, C., & Hitlan, R. (2018, April). The relations between personality and source of dietary protein. *Midwestern Psychological Association Conference.* Chicago, Illinois. (Poster session) ... Also (2017, April) at the *University of Northern Iowa's College of Social and Behavioral Sciences Conference.* Cedar Falls, Iowa.

R Packages

- **redquack**: Transfer REDCap data to a database and use in R without exceeding available memory (https://dylanpieper.github.io/redquack/)

- **chatalot**: Process a lot of large language model chats using ellmer (https://dylanpieper.github.io/chatalot/)

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