

RAY POMPONIO

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🔗 GitHub: rpomponio

PROFESSIONAL SUMMARY

Biomedical data scientist at Children's Hospital of Pittsburgh (CHP), focused on respiratory viral surveillance and pediatric vaccines research. Trained in biostatistics with core competencies of modeling missing/correlated data. Collaborates with interdisciplinary investigators to deliver timely, impactful analyses for publication in scientific journals. Seeking roles in public health data science.

HIGHLIGHTED PROJECT EXPERIENCE

Data Quality Overhaul for CDC-Sponsored Surveillance Study

July 2024 – December 2024

- Overall reduction in CDC-prompted queries of local database, previously thousands of queries were triggered, now fewer than 200 monthly queries are anticipated.
- Resulted in resolution of over 2,500 flags catching missing or mis-entered data.

Dashboard Design in Power BI

November 2024 – January 2025

- Created live dashboards to monitor enrollment, tracking virus circulation patterns in pediatric surveillance study with 100+ laboratory results per week.

FDA Protocol for Medical Device Trial

March 2024 – June 2024

- Drafted three-page analytical protocol with multiple endpoints for FDA Q-submission.
- Conducted sample size analysis for medical device study based on non-inferiority targets.

WORK EXPERIENCE

Data Scientist

University of Pittsburgh, Department of Pediatrics – Pittsburgh, PA

May 2024 – Present

- Conduct statistical analyses with biomedical datasets to support pediatric research initiatives.
- Collaborate with cross-functional clinical teams to design studies and interpret results.
- Develop reproducible data pipelines and dashboards for ongoing studies.
- Present findings to stakeholders and contribute to publications.

Graduate Research Assistant

Colorado School of Public Health, Department of Biostatistics – Denver, CO

August 2021 – December 2023

- Led data analysis for public health research projects focused on pulmonology and health outcomes.
- Applied statistical methods and R/Python programming to clean, analyze, and visualize data.
- Co-authored peer-reviewed publications and presented at academic conferences.

Data Analyst

University of Pennsylvania, Department of Radiology – Philadelphia, PA

March 2018 – August 2020

- Analyzed imaging and clinical data to support research in radiology and neuroscience.
- Built Python software to streamline combination of diverse neuroimaging datasets.

- Collaborated with radiologists and researchers to identify lifespan trends and improve data quality.
- Contributed to the development of predictive models of age, dementia for clinical diagnostics.

EDUCATION

Master of Science in Biostatistics

University of Colorado Anschutz Medical Campus – Aurora, CO

Graduated: May 2023

Bachelor of Science in Economics

University of Pennsylvania, Wharton School – Philadelphia, PA

Graduated: May 2018

SKILLS

- Statistical Programming: R, SAS, Python
- Data Manipulation & Analysis: Regression, longitudinal modeling, survival analysis
- Scripting & Automation: Unix Bash, Microsoft Power Automate
- Data Visualization: ggplot2, shiny, matplotlib, Power BI
- Soft Skills: Collaborative research, scientific communication, problem-solving

SELECTED PUBLICATIONS

Pomponio R, Peterson RA, Owusu M, Slaughter S, Melgar S, Jolley SE, Burnham EL. Phosphatidylethanol measures in patients with severe COVID-19-associated respiratory failure identify a subset with alcohol misuse. *Alcohol Clin Exp Res* (Hoboken). 2025 Jan;49(1):165-174.

Held N, Neumeier A, Amass T, Harry E, **Pomponio R**, Peterson RA, Huie TJ, Moss M. Extraneous Load, Patient Census, and Patient Acuity Correlate with Cognitive Load During ICU Rounds. *Chest*. 2024 Jun;165(6):1448-1457.

Burnham EL, **Pomponio R**, Perry G, Offner PJ, Ormesher R, Peterson RA, Jolley SE. Prevalence of Alcohol Use Characterized by Phosphatidylethanol in Patients with Respiratory Failure Before and During the COVID-19 Pandemic. *CHEST Crit Care*. 2024 Mar;2(1).

Nasrallah IM, Gaussoin SA, **Pomponio R**, Dolui S, Erus G, Wright CB, Launer LJ, Detre JA, Wolk DA, Davatzikos C, Williamson JD, Pajewski NM, Bryan RN. Association of Intensive vs Standard Blood Pressure Control with Magnetic Resonance Imaging Biomarkers of Alzheimer Disease: Secondary Analysis of the SPRINT MIND Randomized Trial. *JAMA Neurol*. 2021 May 1;78(5):568-577.

Pomponio R, Erus G, Habes M, Doshi J, Srinivasan D, Mamourian E, Bashyam V, Nasrallah IM, Satterthwaite TD, Fan Y, Launer LJ, Masters CL, Maruff P, Zhuo C, Völzke H, Johnson SC, Fripp J, Koutsouleris N, Wolf DH, Gur R, Gur R, Morris J, Albert MS, Grabe HJ, Resnick SM, Bryan RN, Wolk DA, Shinohara RT, Shou H, Davatzikos C. Harmonization of large MRI datasets for the analysis of brain imaging patterns throughout the lifespan. *Neuroimage*. 2020 Mar; 208:116450.

Complete List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/raymond.pomponio.1/bibliography/public/>

OTHER RELEVANT EXPERIENCE

- Maintainer of 'neuroHarmonize' python package (2021-present): pypi.org/project/neuroHarmonize/
- Statistical reviewer for 5 journal articles (2020-present): *Imaging Neuroscience*, *NeuroImage*
- Graduate teaching assistant (Fall 2023): *Analysis of Longitudinal and Survival Data*
- Volunteer: *Humane Animal Rescue of Pittsburgh* (40+ hours), *First Tee of Pittsburgh* (10+ hours)