Tanner Barbour

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EDUCATION

Virginia Tech, Blacksburg, VA   August 2019 - May 2023
Bachelor of Science in Human Nutrition, Foods, and Exercise
Major: Human Nutrition, Foods, and Exercise

PROFESSIONAL EXPERIENCE

Virginia Tech Center for Biostatistics and Health Data Science   **November 2022 - Present**
Data Scientist   September 2023 – Present
- Design clinical studies, perform statistical analyses, and develop methods for health sciences research, including grant proposals and manuscripts.
- Engage in data wrangling and analysis using tools like SAS and R, handling various data types such as claims data and electronic health records.
- Build and manage databases and surveys in REDCap to support research collaborations.

Data Analyst   May 2023 – September 2023
- Provided statistical support for clinical studies, including generating randomization schemes and ensuring adherence to study methodology and journal standards.
- Mentored undergraduate students, contributing to their development in research and data analysis.

Research Assistant   November 2022 - May 2023
- Collaborated with CBHDS and the Sanghani Center for Artificial Intelligence to create a logistic regression model for DRG code prediction.
- Generated context vectors for discharge summaries utilizing an embedding model and plotted their performance for predicting principal diagnoses, correct major diagnostic categories, and severity levels.
- Created visualizations with Matplotlib and Seaborn, and presented findings using PowerPoint, leveraging understanding of EHR and claims data analysis.

PUBLICATIONS

- Azziza A.B., Ji W., **Barbour T.B**., Lozano A.J., Hanlon A.L. BESI: Behavioral and Environmental Sensing and Intervention for Dementia Caregiver Empowerment – Phase 3. *American Journal of Geriatric Psychiatry*

- Hajialigol D., Kaknes D., **Barbour T.B.**, Yao D., North C., Sun J., Liem D., Wang X. DRGCODER: Explainable Clinical Coding for the Early Prediction of Diagnostic-Related Groups *EMNLP*

- Pellegrin K.L., **Barbour T.B.**, Lozano A.J., Hanlon A.L. Social Vulnerability Predictors of Acute Care Use in Rural Hawaii: Guiding Local Efforts to Achieve Health Equity *Journal of Health Care for the Poor and Underserved (pre-print)*

- Kaknes D.A, **Barbour T.B.**, Ji W., Naylor M.D., Hanlon A.L. Interventional Analytics in Skilled Nursing Facilities Associated with Reduced Readmissions *The American Journal of Managed Care*

ABSTRACTS

- White P, **Barbour T**, Lozano A, Choi-Klier J, Hanlon A, Armbruster S Disparities in NIH Funding for Cancer Survivorship: A Spotlight on Breast and Gynecological Cancers

TECHNICAL SKILLS

Languages:	Python, R, Java, SAS, SQL
Technologies:	HTML5, CSS, MS Office, Tableau, Jupyter, TriNetX, AWS
Databases:	REDCap, PostgreSQL
Version Control:	GitHub
Packages:	TensorFlow, Pandas, NumPy, Matplotlib, Seaborn, NLTK, Sklearn, ggplot2, dplyr

RESEARCH CONSULTATION

Daniel K. Inouye College of Pharmacy, University of Hawaii at Hilo   October 2023 - Present
- Role: Biostatistics Consultant

RECENT PRESENTATIONS

- CUBE: Collaborative Undergraduate Biostatistics Experience – Field of Dreams Conference, Atlanta Georgia (November 8, 2024)
- CUBE: Collaborative Undergraduate Biostatistics Experience – Diversifying Science Undergraduate Research Mixer, Blacksburg Virginia (October 23, 2024)

PROFESSIONAL SERVICES & MEMEBRSHIPS

- American Statistical Association, Washington   December 2023 – Present
  - Developed membership needs survey to improve member retention
- Quantitative Scientific Staff National Network, Ann Arbor, MI   March 2024 – Present

MENTORING

- Summer 2024 CUBE Program: Jackie Gregasavitch, Genevieve Jean-Pierre, Sarah Lathrop, Virginia Tech, Collaborative Undergraduate Biostatistics Experience (CUBE).
- Spring 2024 CMDA Capstone: Alex Vidal, Ian Sekelsky, and Yelebe Desta, Virginia Tech
- Computational Modeling and Data Analytics (CMDA).
- Fall 2023 CMDA Capstone: Siddarth Ravikanti, Judson Powers, and Nicholas Emig, Virginia Tech
- Computational Modeling and Data Analytics (CMDA).
- Summer 2023 CUBE Program: Alicia Alvarez, Makara Le, Virginia Tech, Collaborative Undergraduate Biostatistics Experience (CUBE).