Bryn **Nurczyk**

Biostatistics · Data Science for Health Outcomes

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"Tell me, what is it you plan to do with your one wild and precious life?" - Mary Oliver

Education

University of Florida — *Gainesville, FL*

B.S. in Statistics (GPA: 3.70) — *Aug. 2023 - Aug 2027*

- Minors in Health Disparities in Society, Mathematics
- Certificate in Medical Geography

Skills

Back-end	Express
Front-end	React
Programming	Node.js, Python (scikit-learn), C++, R (tidyverse, tidymodels), SPSS, SAS, LaTeX, SQL (PostgreSQL), Tableau
DevOps	Github

Work Experience

Warrior Aquatic, Translational, and Environmental Research (WATER) Lab — *University of Florida, Gainesville, FL*

Undergraduate Laboratory Assistant, (Mentor: Dr. Tracie Baker, PhD) — *Aug. 2024 - Present*

- Supported toxicological modeling of aquatic species through precise fish husbandry and sample preparation protocols, ensuring reliable data integrity in UF's Aquatic Pathobiology Lab including feedings, egg cleanings, and euthanasia.
- Conducted hypothesis testing and Bonferroni-corrected post-hoc analysis in R for Pb(II)-induced behavioral and mortality outcomes.
- Applied PERMANOVA for multivariate hypothesis testing and analyzed genera-level abundance patterns in Florida Manatee microbiome data.
- Leveraged R for gene overlap analysis in a longitudinal zebrafish toxicogenomics study, uncovering persistent transcriptomic signatures from larval exposure to adult stages.

NIH's Florida Summer Institute in Biostatistics and Data Science (SIBDS) — *Florida Atlantic University, Boca Raton, FL*

2025 Summer Cohort, (Mentor: Dr. Katherine Freeman-Costin, PhD) — *May 2025 - July 2025*

- Selected as one of 16 students nationwide for a competitive 6-week, 180+ hour NIH-funded training in statistical programming, epidemiology, and applied data science using R, SAS, IBM SPSS, and Python.
- Presented key findings to faculty and peers; engaged in career panels, research ethics workshops, and mock interviews with public health professionals.
- Built an interactive R Shiny tool to evaluate Lasso vs. tree-based logistic regression for stroke prediction in an adult population, under mentorship of Dr. Lun-Ching Chang of FAU Statistics, viewable here.

Spatial Epidemiology and Ecology Research (SEER) Lab — *University of Florida, Gainesville, FL*

Undergraduate Research Assistant (Mentors: Dr. Jason K. Blackburn PhD & Dr. Hannah Herrero, PhD) — *May 2024 - May 2025*

- Streamlined geospatial data workflows using the Google Earth Engine Python API to automate Landsat image retrieval, compute vegetation indices, and conduct Tasseled Cap PCA, doubling data acquisition efficiency.
- Modeled anthrax endemicity in West Texas white-tailed deer using ecological niche modeling methods (GARP, boosted regression trees) and cloud-derived environmental covariates in R.
- Conducted spectral mixture and geospatial analysis of PlanetScope, Rapideye, and Landsat imagery to examine outbreak-associated landscape phenology using R, Python, and ArcGIS.
- Supported data acquisition and visualization for the Cervidae Health Research Initiative (CHeRI) with custom ArcGIS Dashboards and backend integration.

Extracurricular Activity

American Statistical Association, Undergraduate Chapter — *University of Florida*

Member — *Nov. 2011 - PRESENT*

- Attended biweekly meetings and workshops from both industry leaders in Statistics and student mentors.
- Participated in 2025 ASA Datafest sponsored by UF's Biostatistics Department winning Best OVerall.

One Health Student Association — *University of Florida*

Communications Director — *Aug. 2024 - May 2025*

- Designed digital content and managed outreach, expanding visibility and engagement for interdisciplinary health initiatives. Increased potential member interaction.
- Organized biweekly newsletters for 130+ subscribers.

Honors & Awards

International

2025 **Finalist,** COMAP Mathematical/Interdisciplinary Contest in Modeling (MCM/ICM) - Recognized as one of 343 finalist teams out of 21,000+ globally (top 2%)

2025 **Institute for Operations Research and the Management Sciences (INFORMS) Award Designation,** COMAP Mathematical/Interdisciplinary Contest in Modeling (MCM/ICM)

Domestic

2025 **Best Overall,** ASA DataFest 2025 (UF Undergraduate Division) — Selected among 100+ participants modeling Savills commercial real estate data. — *Department of Biostatistics, University of Florida*

Presentation

2025 ASPRS Mid-South Regional Conference — *Oak Ridge National Laboratory, Oak Ridge, Tennessee*

Co-author, <Landscape or Founder Effect?> — *Apr. 2025*

2025 Society of Toxicology Annual Meeting — *Orlando, FL*

Co-author, <Nanoplastic-induced alterations in transcriptomic & apical endpoints in zebrafish larvae that persist into adulthood> — *Mar. 2025*

2025 Emerging Pathogens Institute Research Symposium — *Gainesville, FL*

Presenter for <Geophysical Drivers of Anthrax: A Remote Sensing Approach to Soil Texture Classification to Inform Outbreak Prediction> — *Apr. 2025*

- Presented research poster on a cloud-based random forest classification workflow for soil texture mapping, highlighting the potential of fine-scale spatial upscaling to address ecological fallacy in anthrax outbreak modeling.

2024 Department of Geography Fall Symposium — *Gainesville, FL*

Presenter for <Spatial Investigation of Partial Season Phenology in the Texas Anthrax Triangle with Three Vegetation Indices and a Tasseled-Cap Transformation> — *Aug. 2024*

- Presented on research pertaining to partial-seasonal relationships and epizootic/enzootic spread of Anthrax among White-tailed deer populations on a ranch in West Texas.