Adam Kurth

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Objective

As a dedicated graduate student at Arizona State University, I am committed to advancing research in biostatistics. My goal is to contribute significantly to the field by applying cutting-edge statistical methods to address critical issues in medicine. With a strong academic foundation and a passion for mathematics, I aim to make impactful strides in statistical analysis and its diverse applications in biomedical research.

Education

Arizona State University	Master's of Science in Statistics	2024 - present	3.84/4.00
	Bachelor's of Science in Mathematics (Statistics)	2021 - 2024	3.84/4.00
	Minor in Philosophy		
	Summa Cum Laude		
Scottsdale Community College	General Studies	2020 - 2021	3.84/4.00
Desert Mountain High School	High School Diploma		2016 - 2020
East Valley Institute of Technology	Graphic Design		2019 - 2020

Work Experience

NASA Internship — *NASA Glenn Research Center, Cleveland, OH* — June 2024 - present
Human Reliability Analyst
- Developing computational models in Python for astronaut health metrics.
- Utilizing statistical methods for quantitative risk estimates.

Research Aide — *Arizona State University, Biodesign Institute CXFEL Beus Laser Laboratory* — June 2023 - present
Data Analyst
- Developer of Python packages for experimental crystallography imaging.
- Assisting in data analysis for biophysics studies.

Publications

Upcoming Manuscript — *Title:* "A Monte Carlo Comparison of the Efficacy of Mplus, flexMIRT, PROC IRT, ltm, and mirt in IRT Models Estimation." — pending
Co-Author
- Simulation management under Yi Zheng and M. Reiser supervision.
- Contributing to research on IRT estimation across software packages.
- Evaluating software performance for psychometric research applications.

Scholarships

Coats & Todd Overcoming Disability Scholarship	2023
Ruth Cheatham Foundation	
Pediatric Cancer Research Foundation Survivor Scholarship	
Burress Family Foundation Underdog Scholarship	2022
John W. Luttrell Children's Network Scholarship	
HPFY Beyond Disability Scholarship	
ASU Alumni Legacy Scholarship	2021

Technical Skills & Interests

• Fluent in R, Python, Bash, Linux, MATLAB, Java, Git/GitHub/GitLab, Sphinx/GitPages, web development, and LaTeX.
• Excelled in statistics, probability, deep learning, machine learning, regression analysis, computational image processing, linear algebra, advanced calculus, proof-writing, and calculus I-III.
• Research experience with data visualization, high-throughput crystallography images.
• Public speaker, organized, responsible, punctual, and dedicated.
• Interests: reading, backpacking, meditation, playing guitar, philosophical inquiries.

Awards & Activities

BioXFEL Scholar	Jan. 2024 - present
Dean's List, Arizona State University	Fall & Spring 2022, 2023
Presidents Honor Roll, Scottsdale Community College	Spring 2021
American Statistical Association (ASA) Member	Aug. 2023 - present
American Mathematical Society (AMS) Member	Dec. 2023 - present
Society of Industrial Applied Mathematics (SIAM) Member	Jan. 2024 - present

Conferences

BioXFEL Annual Symposium - Poster	Feb. 2024
Biodesign Fusion Conference - Poster	April 2024

Personal Statement

As a graduate student at Arizona State University, my academic journey has been deeply rooted in mathematics and statistics, with a keen focus on biostatistics. My diverse interests include medical imaging techniques, survival analysis, risk analysis, Bayesian statistics, graph theory, and geometry. These areas not only captivate me intellectually but also align with my career aspirations in biostatistics and its applications in medical research.

My recent internship at NASA's Glenn Research Center was a transformative experience that solidified my desire to pivot my research towards biostatistics. Working on computational models for astronaut health metrics and utilizing statistical methods for quantitative risk estimates provided me with invaluable practical experience. This internship illuminated the critical role of biostatistics in aerospace environments, particularly in risk analysis and survival analysis, reinforcing my decision to pursue this path for my thesis and future research.

While my time at Arizona State University's Biodesign Institute CXFEL Laboratory involved significant work in crystallography and software development for high-throughput imaging, my current focus is shifting towards the theoretical and practical applications of biostatistics. I am particularly drawn to the potential of integrating machine learning with biomedical imaging to enhance research precision and efficiency. My strong foundation in programming, coupled with my academic training in mathematics and statistics, equips me well for this interdisciplinary approach.

I am eager to contribute to a research environment that fosters collaboration between biostatisticians, statisticians, and imaging specialists. My enthusiasm for exploring new avenues in biostatistics, along with my practical experience and academic background, make me confident in my ability to add value to your program or research team.

For more information on my work and projects, please visit my website: Personal Website.

Thank you for considering my application. I look forward to the opportunity to contribute to your esteemed program or research team.

References

Sally Morton, Mentor, ASU
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