Adam Kurth

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Objective

As a dedicated graduate student at Arizona State University, I am driven to immerse myself in cutting-edge statistical research, contributing meaningfully to the realms of mathematics, statistics, and data science. I aspire to harness my academic foundation and passion for mathematics to make valuable strides in statistical analysis and its diverse applications.

Education

Arizona State University	Master's of Science in Statistics	2024 - present	3.79/4.00
	Bachelor's of Science in Mathematics (Statistics)	2021 - 2024	3.79/4.00
	Minor in Philosophy		
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

My experience at Arizona State University's Biodesign Institute CXFEL Laboratory has ignited a passion for leveraging biostatistics to advance medical research through cutting-edge imaging technologies. My current role at CXFEL Labs has deeply immersed me in crystallography experiments, where I actively develop new software for high throughput crystallography images. This experience has not only honed my analytical skills but also spurred a strong interest in exploring the theoretical foundations and practical applications of biostatistics, particularly within the realm of medical imaging.

I am particularly drawn to research opportunities that integrate biostatistics with advanced imaging techniques. The potential to utilize machine learning for biomedical imaging is especially intriguing, as it holds the promise of significantly enhancing the precision and efficiency of research endeavors. My existing programming fluency and a strong foundation in statistics provide a solid base for delving deeper into these areas.

For a more in-depth exploration of my work at the CXFEL Laboratory, I invite you to visit my project website: CXFEL Laboratory Docs. This site offers a comprehensive overview of our ongoing efforts, which directly align with the broader mission of the Biodesign Institute as detailed here: biodesign.asu.edu.

What excites me most about the future is the prospect of contributing to a research environment that fosters collaboration between biostatisticians, imaging specialists, and machine learning experts. I am confident that my enthusiasm, coupled with my foundational skills and eagerness to learn, make me a valuable asset to your program.

References

Sabine Botha, P.I. & Professor, ASU
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