

Jacob Maibach

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Work and Research Experience

University of Arizona, BIO5

Statistician III in Statistics Consulting Lab [August 2022 - Present]

University of Arizona

PhD Candidate in Statistics [August 2020 - Present]

- instructor for Intro Statistics (Math 163)
- TA for Intro Biostatistics (Math 263) and College Algebra (Math 112)
- research developing latent variable models for educational data/process data (Bayesian item response models)

Independent Consultant

Data Scientist [June 2019 - July 2020]

- built and analyzed a database for trends in the prevalence of skin allergies for an upcoming publication
- developed an automated system for collecting and classifying news articles to support a content analysis project
- conducted data analysis and visualization to support endpoint development in a phase 2 clinical trial

Trantor / VMWare

Machine Learning Consultant / Cognitive Solutions Developer [January 2019 - June 2019]

- developed end-to-end a text classification micro-service in Python for an employee experience chatbot
- built a dashboard for user feedback and usage data to support continuous improvement of the chatbot

The George Washington University

Research Associate (NSF-funded) STEM Pedagogy [May 2018 - August 2018]

- applied content analysis to produce measures of writing quality
- conducted statistical assessment of inter-rater reliability

NASA/USRA

Project in Satellite Remote Sensing of Air Pollution [June 2017 - April 2018]

- developed a data processing pipeline to produce analysis-ready datasets
- produced visualizations of spatial and temporal data

Astrostatistics Research

[Fall 2017]

- developed a sampling methodology with supporting theoretical results
- research culminated in a 30-page masters thesis

Undergraduate Teaching Assistant

Upper-level course in Experimental Physics

[Spring 2016]

Computational Biology Research

[Fall 2015 - Spring 2016]

- culminated in a 20-page bachelors thesis

Luther Rice Research Fellow

Research in Combinatorial Mathematics

[Summer 2015]

- application included a proposal reviewed by a university-wide selection committee

- research culminated in a 45-page bachelors thesis

Education	<p>The George Washington University MS in Data Science [Fall 2016 - Fall 2017] GPA: 3.80</p> <p>BS in Mathematics and Physics [Fall 2013 - Spring 2016] Magna Cum Laude, with Departmental Honors in Mathematics and Physics GPA: 3.75</p>
Leadership Experience	<p>Outreach Chair for the George Washington University Society of Physics Students [Spring 2015 - Spring 2017]</p> <ul style="list-style-type: none"> • organized and ran an annual 6-week science workshop series for elementary school students with the after-school program Life Pieces to Masterpieces • coauthored a successful proposal for the Marsh White Outreach Award • developed a feedback system to ensure continued improvement of the outreach program • trained my successor
Publications	<p>Elmobdy, K., Maibach, J., Do, LHD., Maibach, H. (in press). North American Trends in Patch-Test Reactions: 32-year Statistical Overview (1984-2016).</p> <p>Gupta, P., Doraiswamy, P., Levy, R., Pikelnaya, O., Maibach, J., Feenstra, B., et al. (2018). Impact of California fires on local and regional air quality: The role of a low-cost sensor network and satellite observations. <i>GeoHealth</i>, 2.</p>
Presentations	<p>Maibach, J., Kai, Y., Peng, W. “Theoretical Foundations for Clustering Analysis of Transcription Factor Distributions”. Quadrennial Physics Congress, 2016.</p> <p>Maibach, J. “Presentations of Transversal Matroids: Uniform Matroids and Extensions”. The George Washington University Research Days, 2016.</p> <p>Maibach, J. “Transmission of Non-Perpendicularly Incident Light”. April Meeting of the American Physical Society, 2015.</p>
Awards	<p>Marsh White Outreach Award (2016). Society of Physics Students (national organization). Awarded \$500 to conduct the outreach program of The George Washington University Society of Physics Students.</p> <p>Luther Rice Research Fellowship (2015). Columbian School of Arts and Sciences, The George Washington University. Awarded \$5000 to conduct summer research.</p>