MARIUM TAPAL

mariumtapal@gmail.com ⋄ Website ⋄ GitHub ⋄ Google Scholar ⋄ LinkedIn

EDUCATION

Smith College   Northampton, MA
B.A. in Mathematics & Statistical and Data Sciences   May 2022

- GPA: 3.97/4.00
- Awards & Memberships: Cum Laude Honors, Mu Sigma Rho, Dean's List, Phi Beta Kappa, American Statistical Association

RESEARCH INTERESTS

statistical computing · applied statistics · survey statistics and methodology · quantitative methods · statistics pedagogy · bayesian analysis · data visualization · data management

RESEARCH EXPERIENCE

Research Associate   Harvard Business School
Supervisor: Dr. Leslie A. Perlow   Aug 2022 - Present

- Award: $500 HBS Human Resources Rewards and Recognition Program, June 2023
- Developed, tested, and refined a framework for measuring well-being using advanced statistical inference and custom algorithms.
- Specialized in survey data analysis, creating data pipelines for a forthcoming public tool.
- Co-authored four research presentations to audiences of over 500.
- Managed all data and statistics related work for the Crafting Your Life MBA course and project.

Undergraduate Researcher   Smith College
Supervisor: Dr. Benjamin S. Baumer   Jan 2020 - May 2022

- GitHub / CRAN / Publication / WSDS Conference Poster / eUSR Conference Slides
- Authored and maintain the fec16 R package providing tools for loading 2016 U.S. election data using the Extract, Transform, and Load (ETL) framework.
- Researched the extension of the package to work for any election year and created supplementary packages for the 2012 and 2020 federal U.S. elections.

Summer Undergraduate Research Fellow   Smith College
Supervisor: Dr. Katherine M. Kinnaird   May 2021 - Aug 2021

- GitHub / PyPI / Anaconda / JOSS Paper
- Translated the repytah Python package which contains functions to build aligned hierarchies from sequential data from source code written in MATLAB.
- Contributed to the development for distribution via PyPI and Anaconda and the JOSS paper.

Undergraduate Researcher   Smith College
Supervisor: Dr. Albert Y. Kim   Jun 2020 - Jul 2020

- 538 GitHub / 538data GitHub / ModernDive GitHub
- Solved problem of hosting large datasets in the 538 package due to CRAN size limits by creating a supplementary drat repository/package.
- Refactored the ModernDive textbook, website, and package to improve reproducibility and accessibility.

Undergraduate Researcher   Smith College
Supervisor: Dr. Stephanie G. Wang   Sep 2019 - Dec 2019

- Presentation
- Researched taxonomies of non-associative quasigroups (abstract algebra).
- Used MATLAB and R scripts to generate and test data in the form of $(Z/p)^n$ matrices to look at finite-dimensional vector spaces over finite fields.

TECHNICAL PROJECTS

- Sentiment Analysis of Twitter Data of Financial Institutions, Capstone Project, Federal Reserve Bank of Cleveland.
- Automated Bayesian Simple Normal Regression: generate a fully customizable R Markdown report with 1 line of code.
- Personal Website created using the blogdown R package and Hugo-Apero.
- Marium Bakes: a baking website made using R / Quarto Markdown & HTML/CSS.
- Shiny App exploring NYC Civilian Complaints about the NYPD.
- 15-minute activity teaching classification in multimodal memes.

PUBLICATIONS, CONTRIBUTIONS, CONFERENCES, & PRESENTATIONS

- repytah Python Package: JOSS paper
- fec16 R Package: Publication
- Women in Statistics and Data Science 2020: Poster
- Electronic Undergraduate Statistics Research Conference 2020: Presentation Slides
- Intro to Git/GitHub Workshop: Blog Post
- R Markdown Tips and Tricks Workshop: Document
- ModernDive Book: Book

TEACHING EXPERIENCE

- Jul 2024 - Aug 2024: Mentor, The Coding School
- Sep 2021 - May 2022: Statistics Tutor, Spinelli Center for Quantitative Learning, Smith College
- Jan 2022 - May 2022: Grader for SDS 270: Advanced Programming in R, Statistical and Data Sciences, Smith College
- Sep 2021 - May 2022: Data Assistant, Statistical and Data Sciences, Smith College
- Sep 2019 - May 2022: Vice President & Data Mentor, Smithies in Statistical and Data Sciences
- Sep 2016 - May 2018: Teaching Assistant, Advanced Level Mathematics, Nixor College

OTHER EXPERIENCE

- Sep 2018 - May 2022: Social Chair, Publicity Chair, EKTA - Smith College's South Asian Students Association
- Aug 2019 - May 2021: House Community Advisor, Smith College Residence Life
- Jan 2021 - Feb 2021: Data Science Intern, FinePrint Data
- Jun 2019 - Jul 2019: Treasury and Capital Markets Intern, United Bank Limited

ADDITIONAL INFORMATION

Technical Skills	R, Python, SQL, Git/GitHub, LaTeX, HTML, CSS
Languages	English, Urdu, Gujrati, German (Elementary)
Training & Certifications	CITI Social and Behavioral Research Investigators
	Social Justice Mediation
Other Awards	100% Merit Scholarship (Nixor College, 2016 - 2018)
	Pursuit of Excellence in Academics (Nixor College, 2017)
	Dean's Wall (Nixor College, 2017)