

MARIUM TAPAL

✉ mariumtapal@gmail.com 🌐 mariumtapal.com 🐙 github.com/mariumtapal 🌐 linkedin.com/in/mariumtapal

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

applied statistics · statistical inference · statistics pedagogy

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 well-being measurement framework using advanced statistical inference and custom algorithms, contributing to an academic publication in progress.
- Independently analyzed multiple datasets to validate research questions within a well-being measurement framework.
- Collaborated with an interdisciplinary team of faculty and post-doctoral researchers to prepare four research presentations for audiences of over 500.
- Specialized in survey data analysis, creating data pipelines for a forthcoming public tool.
- 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

- Created 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

- 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

- Solved problem of hosting large datasets in the 538 R 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

Supervisor: Dr. Stephanie G. Wang

Smith College
Sep 2019 - Dec 2019

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

PUBLICATIONS

- **Tapal, M.**, Gahwagy, R., Ryan, I., & Baumer, B. (2023). fec16: Data Package for the 2016 United States Federal Elections. R package version 0.1.4. <https://CRAN.R-project.org/package=fec16>.
- Jia, C., Carpenter, L., Tran, T., Liu, A. Y., Yeutseyeva, S., **Tapal, M.**, Wang, Y., Zhao, Z. K., Moody, J., Nava, D., Donaher, E., Jiang, L. Y., Bruncati, B., & Kinnaird, K. M. (2023). repytah: An Open-Source Python Package for Building Aligned Hierarchies for Sequential Data. *Journal of Open Source Software*, 8(85), 5213. <https://doi.org/10.21105/joss.05213>

CONFERENCE POSTER PRESENTATIONS

- **Tapal, M.**, fec16: An R Package Containing Relational Data From The U.S. 2016 Elections. Poster presented at the **Women in Statistics and Data Sciences** conference, October 2020.
- **Tapal, M.**, fec16: An R Package Containing Relational Data From The U.S. 2016 Elections. Presentation given at the **Electronic Undergraduate Statistics Research** conference, November 2020.

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

TECHNICAL PROJECTS

- Sentiment Analysis of Twitter Data of Financial Institutions, Capstone Project, Federal Reserve Bank of Cleveland.
- Automated Bayesian Simple Normal Regression: generate a 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.

WORKSHOPS

- Intro to Git/GitHub Workshop Blog Post
- R Markdown Tips and Tricks Workshop Document

LEADERSHIP 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

PROFESSIONAL EXPERIENCE

- Jan 2021 - Feb 2021: Data Science Intern, FinePrint Data
- Jun 2019 - Jul 2019: Treasury and Capital Markets Intern, United Bank Limited

ADDITIONAL INFORMATION

Technical Languages and Packages	R (including Tidyverse, Quarto, Markdown) Python (including Pandas, Scikit-Learn, TensorFlow) SQL, Git/GitHub, LaTeX, HTML, CSS
Languages	English, Urdu, Gujarati, German (Elementary)
Training & Certifications	CITI Social and Behavioral Research Investigators UMass Amherst Social Justice Mediation