

SANA GUPTA

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EDUCATION

University of Connecticut, College of Liberal Arts and Sciences **Storrs, CT**
Ph.D. in Statistics *August 2024 – Present*
Pfizer Statistics Fellow

University of Connecticut, College of Liberal Arts and Sciences **Storrs, CT**
Bachelor of Science, Major: Statistics, Honors Program *August 2020 – May 2024*
Minor: Mathematics
Awards: Nutmeg Scholarship, Dean's List (Fall 2020, Fall 2022), New England Scholar (2021, 2022)

RESEARCH

Undergraduate Research **Storrs, CT**
University of Connecticut, Department of Statistics *September 2022 – May 2024*
Dr. Ofer Harel

- Conducted literature review about multiple imputation (MI) methods for standard and compositional data.
- Developed novel methods for imputing missing compositional data based on the principles of MI.
- Performed a simulation study on a High-Performance Computing cluster to evaluate method performance.

Research Assistant **Storrs, CT**
University of Connecticut, Allied Health Department *August 2022 – May 2024*
Shrestha Lab, Dr. Roman Shrestha

- Contribute to manuscripts on the topic of HIV prevention in men who have sex with men through medication such as Pre-Exposure Prophylaxis (PrEP).
- Conduct data analysis in R using regression models and bar plots in preparation for manuscript writing.

Research Assistant **Storrs, CT**
University of Connecticut, Allied Health/Statistics Departments *August 2021 – June 2022*
Ibero-American Health and Well-being Evidence-Based Analytics Lab, Dr. Tania Huedo-Medina

- Developed statistical analytical skills in Excel and SPSS for research projects.
- Analyzed effect sizes, publication biases, and other relevant metrics to understand effectiveness.

WORK EXPERIENCE

Pharmacometrics Intern **Groton, CT**
Pfizer Inc. *May 2024 – August 2024*

- Developed a process to compare pharmacokinetic results in a simulated healthy cohort and a hepatic/renal impaired cohort.
- Conducted power calculations to evaluate the performance of these methods for use in future clinical trials.
- Set up a framework for simulating healthy cohorts and testing power across different drug PK models.

Nonclinical Statistics Intern **Groton, CT**
Pfizer Inc. *August 2023 – May 2024*

- Developed RShiny applications for use as internal educational tools.
- Worked with bench scientists for their data analysis needs and develop reports to assess variability and other metrics in their experiments.
- Created experimental designs for optimization experiments and used experimental results to identify optimal compound values.

Peer Research Ambassador **Storrs, CT**
University of Connecticut, Office of Undergraduate Research *August 2023 – May 2024*

- Led informational sessions about getting involved with undergraduate research and how to connect with professors.
- Conducted one-on-one meetings with students interested in hearing more about my research experiences and share advice on getting involved with research.

Safety Pharmacology Intern **Groton, CT**
Pfizer Inc. *June 2023 – August 2023*

- Collected and cleaned data from safety pharmacology studies investigating rodent toxicology and functional observational battery.

- Computed binary logistic regressions and chi-square tests to evaluate relationships between observations across the two study types using R.
- Developed visualizations for a final presentation on significant findings and correlations.

Summer Growth Experience Intern

Pfizer Inc.

Groton, CT

May 2022 – August 2022

- Wrote Python scripts to help process large .txt and .csv files.
- Worked with procurement professionals to understand supply chain and item management data.
- Researched solutions for Pfizer scientists' purchasing and order management processes.

Digital Scholar Intern

Pfizer Inc.

Groton, CT

June 2021 – August 2021

- Communicated with professionals in the Analytics, Data, and Learning organization within Pfizer Digital.
- Organized meetings to collect metadata for the Scientific Data Cloud, condensed data and arranged it in an Excel spreadsheet, uploaded metadata into Alation Data Catalog.

TEACHING

Discussion TA for Undergraduate Course

STAT 1100Q: Elementary Concepts of Statistics

Storrs, CT

Fall 2024

- Conduct Minitab demonstrations, answer questions about homework and course material, and develop exam review content for two weekly discussion sections.

Grader for Undergraduate Course

STAT 3675Q: Statistical Computing

Storrs, CT

Fall 2024

- Grade homework assignments, quizzes, and exams for about forty students each week.

HONORS AND AWARDS

UConn Statistics in Pharmaceuticals 2024 Conference Poster Award

Project Title: Operating characteristics of the simulated healthy participant approach in impaired clearance studies.

Storrs, CT

August 2024

- One of three winners out of ten poster submissions at the graduate and undergraduate level.

ASA DataFest: Best Visualization

Hosted by Wesleyan QAC

Middletown, CT

April 2024

- Built an RShiny app showing an interactive contour plot with sliders and radio buttons.
- Assumed a leadership role in the team by spearheading brainstorming and delegating tasks to the rest of the team.
- Presented results and a statistical solution to judges and offered advice to the data sponsors on how to utilize this advice to better their product.

UConn Statistics in Pharmaceuticals 2023 Conference Poster Award

Project Title: Association Between Gastrointestinal Effects in Rodent Toxicology Studies and Decreased Locomotor Activity in Rodent Safety Pharmacology Studies

Storrs, CT

August 2023

- Gave a five-minute presentation on my summer internship project.
- One of five winners out of over twenty poster submissions at the graduate and undergraduate level.

UConn IDEA Grant Recipient

Project Title: A Novel Imputation Strategy for Incomplete Compositional Data Analysis

Storrs, CT

April 2023 – May 2024

- Awarded an IDEA Grant through the Office of Undergraduate Research for the 2023-24 academic year.
- Will conduct a student-driven research project, developing an imputation method for compositional data.

ASA DataFest: Best Statistical Insight

Hosted by Wesleyan QAC

Middletown, CT

April 2023

- Participated in ASA DataFest, a competition for undergraduate students tasked with analyzing a surprise, large, and complex dataset.
- Collaborated with team members from UConn to run a binary logistic regression on the dataset.
- Presented findings and an actionable solution for one of the data sponsor's problems to a panel of industry and academia judges.

PROJECTS

Adapting Multiple Imputation for Compositional Survey Data

Storrs, CT

Undergraduate Honors Thesis

August 2023 – May 2024

- Wrote a 16-page honors thesis for the culmination for my B.S. in Statistics.
- Discussed the development and performance of two novel methods for compositional missing data imputation.

Observations after a year of wearing an Apple Watch

Storrs, CT

Presented at NESS Data Science Day 2023

October 2023

- Analyzed my personal data from a year of wearing an Apple Watch Series 8.
- Imputed missing Apple Watch data and explored research questions regarding factors impacting sleep duration and cycle tracking.

Analysis of COVID-19 Prevalence versus Yankee Candle Reviews

Storrs, CT

Course Project for STAT 4185: Advanced Data Manipulation & Analysis w/ Python August 2022 – December 2022

- Investigated the relationship between COVID-19 numbers and average star ratings of candles on Amazon using Python.
- Conducted web scraping using BeautifulSoup, data cleaning and analysis using Pandas and NumPy, and visualization using Matplotlib.

ACTIVITIES

New England Statistical Society NextGen Data Science Day Conference

Storrs, CT

Planning Committee Member

June 2023 – Present

- ✎ Worked with other committee members to plan logistics for the one-day conference.
- ✎ Contacted community members and local statisticians to build relationships and invite potential speakers.
- ✎ Coordinated volunteers for the event and directed them to their roles throughout the day.

UConn Joint Statistics Club

Storrs, CT

Undergraduate President and Founding Member

June 2023 – May 2024

- ✎ Brainstorm event ideas and volunteering opportunities with other founding members.
- ✎ Develop guides and resources for UConn Statistics students.
- ✎ Communicate with students and community members to increase outreach and engagement with the statistics field.

UConn Institute for Student Success

Storrs, CT

The Major Experience Mentor for Statistics

June 2023 – May 2024

- ✎ Communicate with undeclared students interested in majoring in statistics and give insight into academic and career prospects as a statistics major.
- ✎ Represent the statistics major at university events and answer questions posed by students.

UConn Office of Undergraduate Research (OUR)

Storrs, CT

Peer Research Ambassador

June 2023 – May 2024

- ✎ Describe personal experiences with research as an undergraduate to students interested in getting started with research and guide them on their path of getting involved.
- ✎ Share OUR research initiatives and grant opportunities with students.

UConn Biopharmaceutical Summer Academy, Statistics in Pharmaceuticals Conference

Storrs, CT

Student and Presenter

August 2021

- ✎ Took a one-credit Graduate level course (BIST 5092) and learned about clinical trial design and pharmaceutical research.
- ✎ Completed a data visualization project with a group of four other students and presented our findings at the Statistics in Pharmaceuticals Conference.

TEACHING AND GRADING

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- **Teaching Assistant for STAT 1100Q (Fall 2024)**
 - **Grader for STAT 3675Q: Statistical Computing (Fall 2024)**

PRESENTATIONS

Observations After a Year of Wearing an Apple Watch

Storrs, CT

New England Statistical Society Data Science Day

October 2023

- Presented a poster on my observations from data I downloaded from my Apple Watch, cleaned, and analyzed as a personal project.

PUBLICATIONS

- Paudel, K., **Gupta, S.**, Gautam, K. et al. High Interest in Long-acting Injectable Pre-exposure Prophylaxis (LAI-PrEP) for HIV Prevention Among Men Who Have Sex With Men (MSM): Result From A Nationwide Survey in Malaysia. J Community Health (2023); <https://doi.org/10.1007/s10900-023-01195-8>
- Shrestha R, Altice FL, Khati A, Azwa I, Gautam K, **Gupta S**, Sullivan PS, Ni Z, Kamarulzaman A, Phiphatkunarnon P, Wickersham JA. Clinic-Integrated Smartphone App (JomPrEP) to Improve Uptake of HIV Testing and Pre-exposure Prophylaxis Among Men Who Have Sex With Men in Malaysia: Mixed Methods Evaluation of Usability and Acceptability JMIR Mhealth Uhealth (2023); <https://doi.org/10.2196/44468>

PROFICIENCIES

Statistics and Data Analysis: R Programming, Python, SAS, STATA, Minitab

Productivity: Microsoft Office, Google Suite, Mac Pages, Keynote, iMovie, Audacity, Canva

Certifications: CITI Biomedical Research (Aug. 2022), CITI Social/Behavioral Research (Aug. 2022)