

# Ujjayini Das

PhD Candidate in Survey and Data Science

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## Profile

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A dedicated professional with a Master of Science in Statistics and currently pursuing a Doctor of Philosophy in Survey Methodology and Data Science. Skilled in advanced statistical modeling, inferential statistics, and data management. Proficient in R programming, MS Excel and MS PowerPoint. Regularly contribute to diverse academic projects and deliver research outcomes within deadline. Adept at applying statistical methods to real-world challenges to drive impactful research outcomes and contribute to the advancement of statistical science.

## Areas of Expertise

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Advanced Statistical Modeling (multilevel modeling, cross-classified random effects model) - Inferential Statistics (A/B testing, robust standard errors) - Data Management and Manipulation (MS Excel) - Sampling Design (convenience sampling, snowballing) - Literature Review - Questionnaire Design in Qualtrics, Survey Monkey (cognitive interviews, pretesting) - Conducting Survey - Qualitative interviewing and coding responses - Natural Language Processing - Data Analysis with R (Analyzing complex survey data, statistical modeling, hypothesis testing, data visualization with RShiny)- GitHub Collaboration - API Integration - Teaching undergrads

## Research Interests

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- Estimation of health disparity from complex surveys
- Estimating interviewer effects in non-interpenetrated sampling designs
- Inference from nonprobability surveys
- Statistical data integration
- Large language models in survey research

## Professional Experience

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### Assessment Science and Psychometrics Intern (NBME)

Remote 06/2025 - 07/2025

- Designed and implemented a web-survey in Survey Monkey to validate a teamwork assessment model tailored to internal medicine residents.
- Web-scraped contact information to build sampling frame and troubleshoot HTML code for personalized survey invitations.
- Produced actionable insights from the survey data while building reproducible code for data analysis in R.

### Graduate Research Assistant (University of Maryland)

College Park, MD 08/2022 - present

- **Youth Reach Maryland** - Statistically linked records across multiple data sets to identify unaccompanied youth population (under 25 years) in the State of Maryland who lack access to state benefits and resources.

[In collaboration with [University of Maryland, Baltimore](#) and [Maryland Department of Housing and Community Development](#)]

- **Rethinking Race of Interviewer Effects over Time** - Developed extensive database of literature on race of interviewer effects published over the last 100 years, coded qualitative information using advanced MS Excel functions. Analysis of the data involved testing of hypotheses, higher level multilevel modeling of complex survey data in R.
- **Measuring Impact of Artificial Intelligence in US Federal Government** - Developed questionnaire for a web-based survey in Qualtrics and drew sampling plans for a convenience sample while performing cognitive testing.
- **BSOS Cloud-based Learning Environment** - Developed RShiny interactive tutorials to promote data science education for undergraduate students, mentored undergraduate students on data curation and data wrangling techniques.

### Guest Lecturer (Chakdaha College)

Calcutta, India 10/2021 - 07/2022

- Taught Statistics to a class of undergraduate students. Conducted in-person and virtual discussion sessions providing rigorous handouts, prepared exams and graded those.

## Academic Experience

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- Course Project** (*University of Maryland*) **College Park, MD** 12/2022
- **Topic Modeling of New York Times Article Headlines During the Spanish Flu & COVID-19 Pandemic** - Examined most frequent words capturing the difference in time-specific aspects of pandemics using Latent Dirichlet Allocation in R.
- Masters Dissertation Research** (*University of Calcutta*) **Calcutta, India** 06/2021 - 07/2021
- **Impact of Virtual Mode of Education on Mental Health of Students in the Age Group 16-25** - Designed survey for psychometric outcome, implemented polytomous categorical regression in R to analyze the data, performed comparative analysis.
- Research Internship** (*University of Calcutta*) **Calcutta, India** 06/2021 - 02/2022
- **Comparison of Quality of Life after Trauma between Two Groups of Patients: Limb Salvage vs Amputation** - Conducted in-depth telephone qualitative interviews involving sensitive questions, Assisted in developing questionnaire and cognitive testing.
- Research Internship** (*University of Connecticut*) **Connecticut, USA** 07/2021 - 01/2022
- **Model based Inference on Herd Immunity to Capture Uncertainty** - Proposed stochastic modeling to approximate SIR models under closed community to estimate time dependent basic reproduction number for optimizing COVID vaccination strategies.
- Field Investigator** (*Lady Brabourne College*) **Calcutta, India** 10/2018 - 11/2018
- **Measuring the Attitude of Society towards LGBTQ+ Community** - Interviewed adults in-person on socially desirable issues, coded qualitative responses.

## Publications

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- Das, U., & Forrester, A. C. (2025). Do People Trust Enough to Respond to Surveys? CHANCE, 38(2), 23–33. <https://doi.org/10.1080/09332480.2025.2510158>

## Conference Papers

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- **Evaluating Efficacy of LLM-augmented Imputations in Longitudinal Surveys** (*AAPOR*) **St. Louis, MO** 05/25
- **Measuring Impact of AI on the U.S. Federal Government** (*FCSM*) **College Park, MD** 10/24
- **Social Trust and Its Impact on Survey Response Rates** (*Joint Statistical Meetings*) **Portland, OR** 08/2024
  - Winner of the [2024 ASA Data Challenge Expo](#)
  - Access the paper [here](#)
- **Modular Interactive Tutorials in R** (*Innovations in Teaching and Learning Conference*) **College Park, MD** 05/23

## Education

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**PhD in Survey and Data Science** *University of Maryland* **Maryland, USA** 2022-present  
*Relevant Courses:* Total Survey Error and Data Quality, Questionnaire Designing, Data Collection, Data Display and Computing, Advanced Statistical Modeling, Applied Sampling, Causal Inference, Text Analysis, Machine Learning for Social Science.

**Master of Science in Statistics** *University of Calcutta* **Calcutta, India** 2019-2021  
*Relevant Courses:* Probability and Measure Theory, Regression Analysis, Design of Experiments, Survival Analysis, Epidemiology, Statistical Genetics.

**Bachelor of Science in Statistics (Honors)** *Lady Brabourne College* **Calcutta, India** 2016-2019  
*Relevant Courses:* Probability, Regression Analysis, Hypothesis (A/B) testing, Multivariate statistics, Demography.

## Skills

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- **Computational Skills:** Microsoft Excel, R, C, MINITAB, STATA (*beginner*), SQL (*beginner*), Python (*beginner*), HTML (*beginner*)
- **Other Software Skills:** Qualtrics, Surevy Monkey (Survey Designing), PowerBI (Data Visualization)(*beginner*)
- **Soft Skills:** Presentation, Planning, Organized, Creative Problem-Solving, Teamwork, Active Listening, Adaptability, Analytical Thinking, Effective verbal and written communication for nontechnical audience