# Sanhita Sengupta

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| CONTACT INFORMATION | Google Scholar Profile | sanhita7sengupta@gmail.com |

**EDUCATION**

Masters of Data Science, Monroe College, New York                    Expected May 2026

Ph.D., Statistics, University of Minnesota, US                    June 2021
**Graduated with CGPA : 3.9/4**

Masters of Statistics, Indian Statistical Institute, Kolkata, India                    May 2016
**Graduated with Distinction, Honours**

Bachelor of Mathematics, Indian Statistical Institute, Bangalore, India    May 2014
**Graduated with Distinction, Honours**

**RESEARCH INTERESTS AND EXPERTISE**

Precision Medicine, Causal Inference, High dimensional data analysis, Machine Learning

**SOFTWARE SKILLS**

R, Python, SAS, SQL, C, C++, Latex, Microsoft Excel

**EXPERIENCE**

- **Data Scientist, Sr Manager : Bristol Myers Squibb**          Since July 2021
  Build robust models based on statistical techniques and machine learning to provide insights and recommendations based on multi modal clinical trial datasets and real world data (RWD). Formulate, implement, and validate predictive models, research innovative trial designs, collaborate with clinicians, trial statisticians, and implement efficient automated processes for producing modeling results at scale for the drug development pipeline.
- **Statistical Consulting** : Institute for Research in Statistics and its Applications, University of Minnesota                    Spring 2021
- **PRISM Cooperative Institute (NSF HDR)**          Fall 2020-Spring 2021
  Collaboration with Cornell and 9 other Universities on climate science projects
- **Data Scientist Intern, United Health Group R&D**          Summer 2019
  Incorporating digital data and insurance data, identifying features which help assess future of diabetic patients in particular, predicting the onset of other comorbidities.
- **Data Scientist Intern, Allianz Life Insurance**          Summer 2018
  Optimizing allocation of distribution and marketing budget to increase production.

**PUBLICATIONS**

- Wang, J., Sengupta, S., & Tiwari, R. (2025). Bayesian dynamic power prior borrowing for augmenting a control arm for survival analysis. Journal of Biopharmaceutical Statistics, 1–22. https://doi.org/10.1080/10543406.2025.2519153
- William G. Wierda, Kathleen Anne Dorritie, Jordan Gauthier, Jacob Drobnyk Soumerai, Saad Kenderian, Rajneesh Nath, Peter A. Riedell, Danielle M. Brander, Daniel Arthur Ermann, Nirav Niranjan Shah, San-San Ou, Sanhita Sengupta, Pradipta Ray, Jixian Wang, Sherilyn Alvaran Tuazon, Revathi Ananthakrishnan, Tanya Siddiqi. Propensity score (PS) comparison between lisocabtagene maraleucel (liso-cel) plus ibrutinib combination therapy (combo) and liso-cel monotherapy (mono) cohorts from TRANSCEND CLL.. JCO 43, 7037-7037(2025).
- Sanhita Sengupta et al., Validation of prototype biomarkers to identify risk factors of inflammatory adverse events (iAEs) following idecabtagene vicleucel (ide-cel) infusion in patients with relapsed and refractory multiple myeloma (RRMM) in KarMMa-3. JCO 42, 7529-7529(2024). DOI:10.1200/JCO.2024.42.16_suppl.7529

- Sengupta, S., Ntambwe, I., Tan, K., Liang, Q., Paulucci, D., Castellanos, E., Fiore, J., Lane, S., Micsinai Balan, M., Viraswami-Apanna, K., Sethuraman, V., Samant, M. and Tiwari, R. (2023), Emulating Randomized Controlled Trials with Hybrid Control Arms in Oncology: A Case Study. Clin Pharmacol Ther, 113: 867-877. https://doi.org/10.1002/cpt.2841
- **Thesis :** Sengupta, Sanhita. (2021). Optimal Treatment Regimes Estimation with Censored Data and Related Topics. Retrieved from the University of Minnesota Digital Conservancy, https://hdl.handle.net/11299/224650.
- Olukunle O. Owolabi, Toryn L. J. Schafer, Georgia E. Smits, Sanhita Sengupta, Sean E. Ryan, Lan Wang, David S. Matteson, Mila Getmansky Sherman and Deborah A. Sunter (2023) Role of Variable Renewable Energy Penetration on Electricity Price and its Volatility across Independent System Operators in the United States, Data Science in Science, 2:1, DOI: 10.1080/26941899.2022.2158145
- Owolabi, O., Lawson, K., Sengupta, S., Huang, Y., Wang, L., Shen, C., Sherman, M., Sunter, D. (2022). A robust statistical analysis of the role of hydropower on the system electricity price and price volatility. Environmental Research Communications. 4. 075003. 10.1088/2515-7620/ac7b74.
- Feng, M., Owolabi, O., Schafer, T., Sengupta, S., Wang, L., Matteson, D., Che-Castaldo, J., Sunter, D. (2022). Analysis of animal-related electric outages using species distribution models and community science data. Environmental Research: Ecology. 1. 10.1088/2752-664X/ac7eb5.

PUBLICATIONS IN PREPARATION
- (Submitted) Advancing Gene and Cell Therapy: Application of AI/ML in Clinical Development and Patient Management.
- (In Preparation: to be Submitted by August 2025) Deriving External Control Arms from Real World Data: G-Computation and Digital Twins applied to a Small Single Arm Phase 1 Trial
- (In Preparation: to be Submitted by August 2025) Lisocabtagene Maraleucel Combined with Ibrutinib in Relapsed or Refractory Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma (CLL/SLL): Primary Results from TRANSCEND CLL 004

PRESENTATIONS
- **IISA 2025**          June 2025
  **Session Chair and Invited Speaker** for session on "Artificial Intelligence in Clinical Development and Healthcare"
- **(ASCO) American Society of Clinical Oncology** :          May 2025
  **Poster** Propensity score (PS) comparison between lisocabtagene maraleucel (liso-cel) plus ibrutinib combination therapy (combo) and liso-cel monotherapy (mono) cohorts from TRANSCEND CLL
- **Pharmaceutical Data Science Conference 2025 (PharmaDS)** :    April 2025
  **Invited Speaker** for session on "Clinical Operations"
- **(JSM) Joint Statistical Meetings** :          August 2024
  **Bayesian dynamic power prior borrowing for augmenting a control arm for survival analysis**
- **(ASCO) American Society of Clinical Oncology** :          May 2024
  **Validation of prototype biomarkers to identify risk factors of inflammatory adverse events following ide-cel infusion in patients with relapsed and refractory multiple myeloma in KarMMa-3**
- **(JSM) Joint Statistical Meetings : Time to Event and Composite Endpoint Applications in Clinical Trials**          August 2023
  **Accelerate Multiple Myeloma Clinical Trials with Covariate Adjustment**
- **DIA/FDA Biostatistics Industry and Regulator Forum : Design Considerations in Using RWE/RWD in Clinical Trials**          March 2023

**Emulating Randomized Controlled Trials with Hybrid Control Arms in Oncology: A Case Study**

- **Flatiron ResearchX Webinar: Novel Methodologies and Analytics** , (Online Live Presentation)      April 2022
  **Emulating Randomized Control Trials with Hybrid Control Arms**
- **Joint Statistical Meetings** , Denver (Speed presentation)      August 2019
  **Estimating optimal treatment regime to maximize restricted mean survival using random survival forests. (Ph.D )**
- **Statistical and Computational Challenges in Precision Medicine** , Minneapolis (Poster presentation)      November 2018
  **Estimating optimal treatment regime to maximize restricted mean survival using random survival forests. (Ph.D)**
- **Business Analytics** Session, Joint Statistical Meetings, Seattle      Aug 2015
  Title: **Functional Data Analysis of Interbank Offered Rates**
  principal components analysis of functional data using daily yield curves for a period of 5 months; MIBOR is a good predictor for EURIBOR, but not for LIBOR.

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| PEER REVIEWS/JUDGING OTHERS WORK | • 3 Peer Reviews : Journal of the Royal Statistical Society: Series A    2024 |
| | • 1 Peer Review : Frontiers in Pain Research - Pain Mechanisms    2025 |
| | • 1 Peer Review : Frontiers in Bioinformatics - RNA Bioinformatics    2025 |
| | • 1 Peer Review : BMC Medical Research Methodology    2025 |
| | • Judge : 2024, 2025 Terra North Jersey STEM Fair (TNJSF)    2024, 2025 |

MEMBERSHIPS      • Elected Member : Secretary of ASA (American Statistical Association) NJ Chapter

AWARDS AND MENTIONS

- **Lynn Fellowship in Statistical Consulting**      2020-2021
  Scholarship awarded by School of Statistics, University of Minnesota to a PhD student who demonstrates a promising statistical consulting ability
- **Alumni Fellowship**      2018-2019
  Scholarship awarded by School of Statistics, University of Minnesota to the most accomplished $2^{nd}$ year Ph.D. student.
  [UMN news article]