

Sayantan Chakraborty

Undergraduate Senior



Education

University of Dhaka, Dhaka, Bangladesh
B.S.S. in Health Economics

09/2023 – 11/2027 (Expected)

Work Experience

Undergraduate Research Assistant in Behavioral Economics

University of Pittsburgh, Pittsburgh, USA (Advisor – [Lester R. Lusher](#))

12/2024 – Now

- Extracted and analyzed large-scale Google Trends data to support the replication of major economics papers.
- Developed Stata scripts to automate pairwise correlation analysis and efficiently manage missing data points.
- Built Python-based web scraping pipelines to collect author-level metadata (institutional affiliations, publication records, and citation metrics) across peer-reviewed economics journals to support large-scale reproducibility analysis.
- Leveraged language learning models to analyze linguistic patterns in paper titles across altscore categories.
- Curated and cross-referenced extensive datasets in Excel, ensuring high data accuracy and integrity.
- Developed scalable data preparation methods, coordinating with stakeholders to improve analysis workflows.

Undergraduate Research Assistant in Kinesiology

Iowa State University, Ames, USA (Advisor – [Sadia Anjum Ashrafi](#))

08/2026 – Now

- Curated and cleaned datasets from behavioral and community-based physical activity intervention studies to support ongoing kinesiology research.
- Contributed to manuscript writing and literature review for kinesiology-related research outputs.

Skills

Programming & Software: Python, R, Stata, LaTeX, Visual Studio Code, KoboToolbox, Qualtrics.

Data & AI Capabilities: Statistical Analysis, Data Visualization, Prompt Engineering, Sentiment Analysis.

Economics & Research: Cost Analysis, Policy Evaluation, Academic Writing, Data Analysis, Data Management.

Professional Skills: Public Speaking, Leadership, Teamwork, Microsoft Office, Google Workspace.

Publications

- Islam, M. R., **Chakraborty, S.**, Bhattacharjee, U., Roy, T. (2026). **Leveraging Temporal Distribution Shifts for Rice Disease Detection**. Accepted, 3rd IEEE International Conference on Computing, Applications and Systems (COMPAS 2026), October 2026.
- Roy, T., Bhattacharjee, U., Saha, S. K., **Chakraborty, S.**, Howlader, K., Bhattacharjee, T. (2026). **Toward Uncertainty Quantification in Modern Art**. arXiv preprint arXiv:2608.04038, August 2026.
- Banik, S., **Chakraborty, S.**, Das Toma, B., Ghafoor, Z., Bhattacharjee, U., Howlader, K., Roy, T. (2026). **TRAPS: Therapeutic Response Analysis via Pathway-informed Stratification**. arXiv preprint arXiv:2606.09898, June 2026.
- **Chakraborty, S.**, Mouno, M., Bhattacharjee, T., Roy, T., Bhattacharjee, U., Pretom, S. C., Roy, A. (2026). **Intelligent Health Intervention System for Syndemic Management Among University Students: An AI-Driven Approach Using Reinforcement Learning**. Accepted for oral presentation at the AAAI 2026 Spring Symposium Series (accepted but not presented).
- Bhattacharjee, U., Roy, T., Howlader, K. C., **Chakraborty, S.**, Bhattacharjee, T., Roy, A. (2025). **Benchmarking Bioemulation-1: Establishing a Baseline for Protein Structural Ensemble Prediction**. 2025 AIChE Annual Meeting, Boston, MA, November 2025.
- Bhattacharjee, U., Roy, T., Bhattacharjee, T., Saha, U., **Chakraborty, S.**, Roy, A. (2025). **Emis-sAI: LLM-Powered Analysis of Carbon Footprint**. 2025 AIChE Annual Meeting, Boston, MA, November 2025.
- Ghafoor, Z., Islam, M. S., Howlader, K., Khondokar, M. R., Bhattacharjee, T., **Chakraborty, S.**, Roy, A., Bhattacharjee, U., Roy, T. (2025). **Enhancing Medical AI Safety Through Multi-Agent Evaluation and Iterative Refinement**. 16th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB 2025), Philadelphia, PA, USA, October 2025.
- Roy, T., **Chakraborty, S.**, Bhattacharjee, U. (2025). **Unveiling Literary Depth: Leveraging LLaMA-Based NLP for Advanced Analysis of Popular Novels**. Accepted for presentation at DULC 2025 Conference, University of Dhaka, Bangladesh.
- Bhattacharjee, U., Roy, T., Pretom, S. C., Kaium, A., **Chakraborty, S.**, Roy, A. (2025). **Llama-Health: Assessing LLaMA's Performance in Multi-Class Healthcare Test Result Prediction**. 8th International Conference on Engineering Research, Innovation and Education (ICERIE 2025), April 2025.
- **Chakraborty, S.**, Bhattacharjee, U., Roy, T., Roy, A. (2025). **Evaluating the Impact of Vaccination Programs on Rubella Incidence: A Statistical Approach**. RURS 1st International Student Conference and Research Fair 2024, University of Rajshahi, Bangladesh.
- Bhattacharjee, U., **Chakraborty, S.**, Roy, T. (2024). **AI-Driven Food Price Inflation Prediction and Country Clustering via LLMs**. Norman Borlaug Poster Competition, Iowa State University, October 2024.

Awards

- **Chakraborty, S.**, Bhattacharjee, U., Roy, T., Roy, A. (2025). **Best-In-Show Award**, George Washington Carver "I Can" Poster Challenge, Ames, Iowa, USA, February 2025.