# Sakib Salam

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LinkedIn, Google Scholar

## Education

**PhD in Biostatistics** — **May 2028 (Expected)**
*Medical College of Wisconsin* — *Milwaukee, WI, USA*

**MS in Mathematics (Statistics Emphasis)** — **May 2023**
*Boise State University* — *Boise, ID, USA*

**BS in Statistics** — **December 2017**
*University of Dhaka* — *Dhaka, Bangladesh*

## Graduate Coursework

Applied Survival Analysis, Theory of Survival Analysis, Design and Analysis of Clinical Trials, Bioinformatics, Real and Linear Analysis, Advanced Computational Statistics, Time Series Analysis, Introduction to Data Science, Machine Learning, Linear Models, Natural Language Processing

## Research Interest

Clinical Trials, Survival Analysis, Bayesian Statistics, Causal Inference, High Dimensional Data Analysis, Variable Selection, Cancer Genomics, Machine Learning

## Technical Competencies

- Programming Languages: R, Python, C, FORTRAN
- Packages: Bioconductor, tidyverse, PyTorch, Keras
- Word Processing Application: Microsoft Office, *LaTeX*
- Software: RStudio, SAS, Anaconda, VScode, SPSS, Stata
- Data Visualization: ggplot2, plotly, matplotlib
- Database: SQL

## Professional Experience

**Graduate Research Assistant**, Medical College of Wisconsin — *August 2023 – Present*
*Milwaukee, WI*
Support on various projects at the Statistical Consulting Center, primarily responsible for data wrangling, data analysis, and report writing

**Graduate Teaching Assistant**, Department of Mathematics, Boise State University — *August 2021 – Present*
*Boise, ID*

- Instructor for the following courses: Elementary Models with Functions, College Algebra, Precalculus II: Trigonometric Functions, Precalculus: Function for Business
- Tutor in the Math Learning Center and Calculus Lab
- Volunteered in developing the Desmos activities for Precalculus II: Trigonometric Functions

**Graduate Teaching Assistant**, Department of Applied Statistics and Operations Research, Bowling Green State University — *January 2021 – May 2021*
*Bowling Green, OH*

- Facilitated the following courses: Mathematical Economics, Financial Economics, Legal Environment of Business
- Managed data collection and visualization to prepare materials for the Legal Environment of Business course

**Data Analyst**, Bornotech — *August 2018 – November 2020*
*Dhaka, Bangladesh*

- Conducted market data analysis to improve and establish a newly formed software and web development startup
- Created reports and data visualizations using R and SPSS
- Led the statistical team and interacted with software and web developers, clients, and project leaders

**Research Assistant**, Department of Statistics, University of Dhaka — *January 2016 – December 2017*
*Dhaka, Bangladesh*

- Performed data integration, data cleaning, dissemination of large data sets, and data linkage between multiple datasets
- Used statistical techniques for hypotheses to validate data, interpretations, and resulting them on publication
- Performed regression and correlation analysis using R and SAS

**Data Analyst Intern,** Young Consultants — *December 2015 – February 1016*
*Dhaka, Bangladesh*

- Conducted SPSS and R to implement data analysis techniques in a JICA project
- Used Excel for visualization

## Research and Projects

**Assessing the correlation between copy number variation and gene expression in matched cancer patients** *June 2022 – May 2023*

- Analyzed the partial and semi-partial correlation between copy number variations and gene expression in TCGA project's lung cancer patients
- Conducted multivariate analysis on the clinical variables for the matched patients

**Comparative Analysis of Multi-Label BERT-based Models for Abusive Sarcasm Detection in Social Media Comments** *January 2023 – May 2023*

- Implemented multi-label BERT-based models for sarcasm detection in harsh social media comments using Python

**Seasonal time series modeling and forecasting of monthly mean temperature & rainfall data in Bangladesh** *January 2022 – May 2022*

- Implemented ARIMA and dynamic linear model (DLM) to forecast monthly temperature and rainfall for the next five years using the Statistical Software R

**A machine learning approach to stroke prediction** *January 2021 – May 2021*

- Implemented logistic, lasso, and random forest models to predict heart stroke in patients using R in the McKinsey & Company dataset pulled out from Kaggle

**Influence of macroeconomic variables in stock prices: Bangladesh scene** *January 2021 – May 2021*

- Implemented Cholesky decomposition, vector error correction model, and Johansen cointegration test to check the impulse of the various macroeconomic variables in stock prices in Bangladesh, ranging from 2012 to 2020, using EViews

**The role of one house one farm (OHOF) in poverty alleviation in agro-rural Bangladesh: An empirical study** *January 2018 – August 2018*

- Collected data at the field level, managed and analyzed the data using SPSS for the government project
- Written reports for the statistical parts

**A sociological and psychological study on the inhabitants of old age homes** *January 2017 – December 2017*

- Implemented logistic regression to determine the potential risk factors for heart disease and compared the facilities between private and public hospitals using R and SPSS

**Trust and e-commerce: a study of customer perceptions of B2C (business to client) companies** *January 2016 – December 2016*

- Implemented the probit model, PCA, Likert Reliability test, and KANO model to measure the customers' satisfaction level and the trust and risk associated with it towards various service dimensions using R and SPSS

**Household survey on local needs for BOP business in Bangladesh, executed by JICA Bangladesh** *April 2015 – August 2015*

- Collected field-level data, recorded and cleaned them using SPSS and Excel
- Made visualizations from the analyzed results in Excel

## Workshops and Training Attended

- Annual Meeting Program of ASA Wisconsin Chapter *2025, Milwaukee, WI*
- 2024 ASA Wisconsin Chapter Workshop
- ALL THINGS DATA SCIENCE Symposium, CTSI & Southeast Wisconsin Data Science *2024, Milwaukee, WI*
- 4th Annual OSCT Deep Learning Workshop, Marquette University *2024, Milwaukee, WI*
- Veridical Data Analysis with Bin Yu and Rebecca Barter *2022, WNAR-IBS*
- 2021 Midwest Big Data Summer School *2021, Iowa State University*
- Demographic Health Survey (DHS) eLearning Survey Sampling Training Course *2020, DHS, USAID*

## Honors and Awards

- Graduate Student Fellowship, Division of Biostaitiscs, Medical College of Wisconsin *August 2023*
- Summer Research Fellowship, Department of Mathematics, Boise State University *June 2022*

## Professional Memberships

- American Statistical Association (ASA)
- International Biometric Society (IBS)
- American Mathematical Society (AMS)
- Internationa Society for Bayesian Analysis (ISBA)
- Mathematical Association of America (MAA)

## Extracurricular Activities

- President, American Statistical Association MCW Student Chapter
- Co-president, Civic Engagement Interest Group, MCW
- Biostatistics Representative, Graduate Students Association, MCW
- Executive Member, WNAR-IBS Journal Club

## Publications

- Aditya Vedantam, Rahman, M., **Salam, S.**, Banerjee, A., Kajana Satkunendrarajah, Budde, M. D., & Meier, T. B. (2025). Serum protein biomarkers for degenerative cervical myelopathy: a prospective study. *Journal of Neurosurgery Spine,* 1–9. https://doi.org/10.3171/2025.1.spine241085
- Das, A. C., Roy, A., & **Salam, M. S. I.** (2020). Potential Factors of Mental Health Challenges During COVID-19 on the Young People in Dhaka, Bangladesh. *Advanced Journal of Social Science*, *7*(1), 109-117.
- Das, A. C., Roy, A., & **Salam, M. S. I.** (2020). Determinants of Internet Usage During COVID-19 on the Young People in Dhaka, Bangladesh. *Advanced Journal of Social Science*, *7*(1), 118-124.