Md Roungu Ahmmad, PhD, MS
Assistant Professor
USF@Health, College of Nursing
The University of South Florida, Tampa, Florida
(213) 952-8248 | Ahmmad@USF.edu | https://www.linkedin.com/in/rahmmad/

Veteran's Preference: N/A | Employment Status: Full Time Employee
Demographic Info: Age: 39 Years | Sex: Male | Race: Asian | Hispanic or Latino: No

Professional Summary

- **Goals**: Strongly passionate about public health research, biostatistics, clinical trial, epidemiology and machine learning models application for biomedical and public health data.
- **Education:** PhD & MS in Biostatistics & Data Science, MSc & BSc in Statistics.
- **Work Experiences (10+Yrs):** Working with reputable government/ private research institutions and universities across the country and abroad.
- **Proficient (10+Yrs):** Expertise in computation using R, SAS, Stata, Python, EAST & SPSS.
- **Computations (10+Yrs):** Statistical models (Frequentist and Bayesian approaches), Multiple Imputation, Non-inferiority margines (NIMs) derivation, surrogate endpoints, joint model, composite endpoints, Machine learning, Deep Learning, Text mining, Sentiment analysis etc.
- **Publication:** Strong record of publication in reputable peer-reviewed journals.
- **Rewarding:** Presenting research work at national and international conferences and receiving rewards for outstanding contributions.

Education

12/2022 — **PhD in Biostatistics and Data Science, University of Mississippi (UMMC), Jackson, USA**
Dissertation: Modeling Multivariate Longitudinal and Multiple Time-to-Event Outcomes
Mentors: William Hillegass, PhD, Wondwosen Yimer, PhD, Adolfo Correa, PhD, Paul Hsu PhD
Honors: Fulbright Scholarship, Dean's Award

08/2022 — **Professional Certificate in Statistical Genetics, University of Washington, Seattle, USA**
Coursework: Introduction to Genetics and Genomics, Gene Expression Profiling, Mixed Models in Quantitative Genetics, Honors: SISG Full Scholarship

05/2020 — **MS in Biostatistics and Data Science, University of Mississippi (UMMC), Jackson, USA**
Thesis: Prediction Survivability of Male Breast Cancer Patients in Detroit Michigan Area by Machine Learning Methods and Comparison with Bayesian Cox Proportional Regression Model
Mentors: Brain Mark, PhD, Paul Hsu PhD
Honors: Fulbright Scholarship, Dean Award

07/2010 — **MSc in Statistics Biostatistics and Informatics, University of Dhaka, Bangladesh**
Thesis: Impact of Disability of Quality of Life of Urban disabled People in Dhaka, Bangladesh
Mentors: Dr. Mohammad Ahsan Uddin
Honors: Book Prize, UGC Scholarship, Kazi Motahar Hossian Award

07/2008 — **BSc in Statistics Biostatistics and Informatics, University of Dhaka, Bangladesh**
Coursework: Basic statistics, fundamental of mathematics and econometrics
Honors: UGC Scholarship

Academic Positions

05/2025
Current
Assistant Professor, University of Southern Mississippi, Hattiesburg, MS, USA
School of Public Health-Biostatistics & Epidemiology
- o Collaborate on interdisciplinary research projects focused on advanced methodologies and their application to improving public health outcomes
- o Provide biostatistics instruction and academic and research mentorship

08/2024
05/2025
Assistant Professor, University of Southern Mississippi, Hattiesburg, MS, USA
School of Public Health-Biostatistics & Epidemiology
- o Teaching Biostatistics for master and PhD level students and providing mentorship
- o Engage in collaborative research projects with colleagues that involve advanced research and application to public health outcomes

02/2011
08/2018
Assistant Professor, Jagannath University Dhaka-1100, Bangladesh (BD)
Faculty of Science, Department of Statistics
- o Taught undergraduate and graduate statistics and mathematics courses
- o Served on thesis committees, academic committees, grant proposals submission with faculties

01/2017
08/2018
Adjunct Assistant Professor, Mawlana Bhashani Science and Technology University, BD
Department of Mathematics and Statistics
- o Taught graduate and undergraduate statistics courses
- o Served on thesis committees, and participated in voluntary activities

06/2010
02/2011
Senior Lecturer in Statistics, University of Information Technology and Science, BD
Department of Natural Science (Mathematics and Statistics)
- o Taught undergraduate and graduate statistics courses for engineering and business majors
- o Served on thesis committees, and participated in voluntary activities with other schools

01/2010
06/2010
Lecturer in Statistics, World University of Bangladesh, Dhaka-1216
Department of Basic Science (Mathematics and Statistics)
- o Taught graduate and undergraduate statistics courses to students in business and engineering
- o Providing guidance and direction to students on their research projects

Professional Employment Experiences

01/2023
08/2024
Mathematical Statistician, US Food and Drug Administration (FDA), Silver Spring, MD
Office of Biostatistics, Center for Drug Evaluations and Research (CDER)
- o Statistical reviewer of new drugs application (NDA) or biologic license application (BLA) for evaluating therapeutic intervention in the drug development process
- o Extensive experience in developing and evaluating protocols and statistical analysis plans
- o Efficiently evaluate & reproduce clinical study report (CSR) submitted along with NDA/BLA for efficacy and safety analysis in the drug development process

08/2022
01/2023
Data Scientist IV, University of Pittsburgh, Bayard Street, PA
School of Public Health-Biostatistics and Epidemiology
- o As a data scientist to provide statistical and data science expertise on collaborative projects with faculties and scientist and maintained epidemiology data
- o Contribute statistical expertise by developing statistical approaches for clinical trial outcomes
- o Developed visualization tools to present statistical results and shared finding with colleagues

Professional Employment Experiences (Cont.)

01/2020
12/2022
Research Assistant, Jackson Heart Study (JHS), MS, USA
Joint Modeling Pipeline
- o Develop a novel statistical methodology to assess disease progression and drug effects from non-terminal events and multivariate longitudinal biomarker profiles
- o Provide a new predictive methodology for evaluating chronic kidney disease and impact of treatment on interval follow-up (eGFR levels) and right-censored time-to-CKD outcomes
- o Develop a joint frailty prediction methodology for non-terminal events (e.g., recurrent heart failure) and time-to-event, and evaluate therapeutic interventions for both outcomes
- o Develop a novel joint statistical methodology for zero-inflated overdispersion count data and longitudinal measurement to evaluate therapeutical interventions

08/2018
12/2022
Graduate Research Assistant, University of Mississippi Medical Center, USA
John D Bower School of Population Health
- o Provide guidance to graduate students for identifying and solving problems related to their research projects and coursework
- o Conduct research with faculty members and scientists and manage electronic records data by SAS, R, Stata, and Python for managing and analysis data and shared

06/2019
18/2019
Internship, University of Mississippi Medical Center, USA
Department of Data Science
- o Projects Title: Diarrheal disease burden (Number of Days sickness or low birth weights of newborn babies) by gender and breastfeeding behaviors
- o Measure the relationship between intensity of disease burden and predictors using Zero-inflated model and GLMM on JIMMA Data
- o Analyze the relationship between birth weights and predictors using linear mixed effects models based on JIMMA data. SAS and R software were used these projects

05/2009
01/2010
Planning Manager, Viyellatex Group Limited, Dhaka, BD
- o Provided statistical support to improve output by optimizing raw materials and reducing planned-to-actual differences of outputs
- o Follow-up work to ensure production regular basis to reduce gap for maximization output

Collaborative Data Science Projects

- ▪ *FDA-Clinical Trial Data; Jan/2024 – Aug/2024*
- o Developing a non-inferiority margin (NIM) for cardiovascular outcome trials (CVOTs) in a mixed population for non-inferiority clinical trial
- o Bayesian hierarchical models are used in synthesis methods for the meta-analyses
- o Multiple imputation of missing data when missing not at random and handling intercurrent events dealing with missing data

- ▪ *EDC-Clinical Trial Data; Advanced Data Analysis and Predictive Model; Oct/2022 – Dec/2022*
- o Collaborate with data science projects such as Percutaneous Intervention Versus Observational
- o Trial of Arterial Ductus in Low weight Infants, Comparative effectiveness for Colling Prospectively Infants with Mild Encephalopath, CPRN Selective Dorsal Rhizotomy Surgery projects
- o Working with scientists and faculties as a lead statistician to contribute statistical expertise
- o Data modeling and results interpretation, as well as writing scientific reports for publications

Collaborative Data Science Projects (Cont.)

- *FDA DARRTS-Data; Developing Models for Hepatotoxicity; Jan/2023 – Aug/2023*
  - Developing predictive model for assessing severe drug-induced liver injury (DILI) to predict hepatocyte loss, and develop pALT predictive model using the PKPD mechanistic model
  - Analyzing drug-induced liver injury using ALT profiles and evaluating liver damage
  - Studying the predictors and drugs that contribute significantly to drug-induced liver injury based on clinical data collected by the FDA over the past ten years

- *JHS-Data; Novel Predictive Models for HF and Treatments; Jan/2020 – Dec/2022*
  - Developed predictive model for assessing recurrent HF and zero-inflated overdispersed HF count by using longitudinal biomarkers (cTN, hsCRP etc) to predict risk of HF or HF intensity
  - Develop joint predictive models for recurrent HF and all cause-mortality quantitative systems of disease evaluation and drug effectiveness
  - Evaluation chronic kidney disease and the impact of treatment on interval follow-up eGFR levels and time-to-CKD events in the Jackson Heart Study

- *Advanced Research on Oncology and Mental Health; Aug/2019 – Dec/2022*
  - SEER Data; Survival prediction of patients with soft tissue including heart Cancer in US
  - SEER Data; Mortality prediction for patients with anal canal squamous cell carcinoma in US
  - TCGA-cBioprotal Data; Dynamic of breast cancer recurrence and treatment effects
  - SEER Data: Mortality Predictions for Men and Women Diagnosed with Anal Canal Squamous Cell Carcinoma in the United States (Currently working for publication)
  - SEER: Nomogram Based Survival Predictions of Patients with Soft Tissue Cancer Including Heart in the United States (Currently working for publication)
  - NHANES Data: Prediction of low-birth-weight using machine learning models and compared with traditional statistical models
  - NHATS Data: A study examining behavioral disturbances and chronic disease associated with Alzheimer's disease among American adults affected by COVID-19.
  - NHATS: Understanding the Impact of Social Engagement Activities, Health Protocol Maintenance, and Social Interaction on Depression During Covid-19 Pandemic Among Older Americans

- *Advanced Data Visualization Tools and Applications; Aug/2018 – Present*
  - *Expertise on data wrangling publicly available free dataset*
  - Developed interactive visualization tools, including interactive plots and tables, as well as completed several projects related to visualizations and data science perspectives
  - Created dashboards for presenting clinical data using R-Shiny, and Bokeh

Technical Skills

- **Computation**: Expertise in mathematical problem solving, statistical modeling, study design, and fundamental computer science. Strong communication skills for conveying complex data analyses.
- **Research**: Extensive experience in observational and clinical studies, toxicology, drug evaluation, and regulatory science for new drug development process.
- **Software**: Proficient in R and SAS programming and applications, Stata, Python, EAST, SPSS
- **Developer Tools**: Skilled in Git, Docker, Google Cloud Platform, VS Code, Visual Studio, and PyCharm for version control, software development, and deployment.
- **Libraries**: Proficient in Python libraries (pandas, NumPy, Matplotlib) and R packages (tidyverse, ggplot2, survival) for data management, statistical analysis, machine learning, and text analysis.
- **Dashboard:** R and Python programming for creating interactive dashboard and visualization.
- **Interactive Table and Plots:** Using R and Python creating interactive tables and Plots

Professional Publications (Methods and Computing)

Working
- o Roungu Ahmmad, Morshed Alam, Bayesian hierarchical model for determining non-inferiority margins for the time-to-event outcomes in a clinical trial for the mixed populations in clinical trials., Working in progress
- o Roungu Ahmmad, Morshed Alam, Wondwosen Yimer, Joint Modeling for Zero-Inflated Over-Dispersed Heart failure Counts and Longitudinal Lipid profiles; an Application of the Jackson Heart Study, Presented in JSM conference: Statistical learning and computing with novel applications, Contributed Papers, Metro Toronto Convention Centre, Aug 10, 2023, 2639,
- o Roungu Ahmmad, Wondwosen Yimer, William Hillegass, Chiu-Hsieh "Paul" Hsu, Adolfo Correa, Michael Hall, Adebamike Oshunbade, Ken Butler, Robert Mentz, Amil Shah, Yuan-I Min, Joint Analysis for Recurrent Heart Failure Events and Longitudinal Lipid Trajectories; an Application to the Jackson Heart Study, Link publication in progress
- o Wondwosen Yimer, Roungu Ahmmad, William Hillegass, Chiu-Hsieh "Paul" Hsu, Adolfo Correa, Michael Hall, Adebamike Oshunbade, Ken Butler, Robert Mentz, Amil Shah, Yuan-I Min, Joint frailty modeling for recurrent events and informative time-to-event outcomes, Link publication in progress

Published
- o Hossain, M. S., M. Ataharul Islam, Deluar J. Moloy and M., Roungu Ahmmad, Local Likelihood Estimation for the Proportional Hazards Model and Comparison with Global Likelihood, Journal of Science and Technology, Vol. 3(2): 391-398,
  https://www.researchgate.net/publication/360047921_LOCAL_LIKELIHOOD_ESTIMATION_FOR_THE_PROPORTIONAL_HAZARDS_MODEL_AND_COMPARISON_WITH_GLOBAL_LIKELIHOOD
- o Roungu Ahmmad, Md Sanwar Hossain, Md Matair Rahman, Azizur Rahman, Markovian Migrational Models a Dynamics of Repeat Migration: A Markov Chain Analysis and Application, International Journal of Science and Technology, Volume 2, No. 4, April 2013, pp 285-290,
  https://www.researchgate.net/publication/336252718_Markovian_Migrational_Models_a_Dynamics_of_Repeat_Migration_A_Markov_Chain_Analysis_and_Application

Professional Publications (Applications)
Working
- o Roungu Ahmmad, Felix Twum, Yung Ge, An Analysis of Interval Follow-up eGFR and Chronic Kidney Disease Outcomes in the Jackson Heart Study
- o Sumitra Paudel, Roungu Ahmmad, Assessing the Impact of Multiple mRNA COVID-19 Vaccine Doses on Severe Adverse Health Outcomes Among University of Southern Mississippi Students
- o Prediction the risk factors of chronic kidney disease using machine learning model for the patients with type 2 diabetes using All Of Us dataset

Published
- o Roungu Ahmmad*, Paul A Burns, Ashraful Alam, Jeannette Simino, Wondwosen Yimer and Fazlay Faruque, Understanding the Impact of Social Engagement Activities, Health Protocol Maintenance, and Social Interaction on Depression During Covid-19 Pandemic Among Older Americans, *https://www.hilarispublisher.com/author/roungu-ahmmad-32141*
- o Roungu Ahmmad, Fazlay Faruque, Distribution of Obesity-related Health Outcomes across the Urban-Rural Commuting Area in Mississippi, Alabama, Louisiana, and Georgia, https://www.walshmedicalmedia.com/archive/dcrs-volume-8-issue-2-year-2023.html
- o Roungu Ahmmad, Nomogram Based Survival Predictions of Patients with Soft Tissue Cancer Including Heart in the United States, Journal of Clinical & Experimental Pathology, https://www.omicsonline.org/open-access/nomogram-based-survival-predictions-of-patients-with-soft-tissue-cancer-including-heart-in-the-united-states-125449.html

Professional Publications (Cont.)

- Ahmmad, M. R., Modeling Multivariate Longitudinal and Multiple Time to Event Outcomes, 2022, https://www.proquest.com/openview/8c797118ae086127aa3e62431a5062b1/1?pq-origsite=gscholar&cbl=18750&diss=y
- Roungu Ahmmad, Wondowsen Yimer, Paul Hsu, Adolfo Correa, William Hillegass, Fazlay Faruque, Prediction Cause-Specific Mortality for Soft Tissue Cardiac Sarcoma Patients in the United States: A Competing Risk Analysis, Accepted: Journal of Carcinogenesis & Mutagenesis, Pre-print: medRxiv, 2023, doi: https://doi.org/10.1101/2023.03.02.23286676
- Roungu Ahmmad, Jeannette Simino, Morshed Alam, Nasir Uddin, Fazlay Faruque, Effects of gene expression changes and treatments on recurrence of breast cancer subtypes and mortality, Genomic Core, Big Data Health Science Center, University of South Carolina, Feb, 10, 2023
- Roungu Ahmmad, Fazlay Faruque, Iqbal Mahmud, Nasir Uddin, Nomogram-based Breast Cancer Mortality Prediction in Men and Women with Different Cancer Treatments in the U.S. between 2000 and 2017, Clinical Epidemiology, APHA's 2022 Annual Meeting & Expo, title: 3267, 2022
- Roungu Ahmmad, Iqbal Mahmud, Nasir Uddin, Wondwosen Yimer, Jeannette Simino, Fazlay Faruque, A Comprehensive Competing Risk of Survival Analysis for Kidney Cancer Patients in the United States, Nonparametric Statistics, Joint Statistical Meeting, Washington, DC, 2022, https://ww2.amstat.org/meetings/jsm/2022/onlineprogram/AbstractDetails.cfm?abstractid=323874
- Roungu Ahmmad, Fazlay Faruque, Iqbal Mahmud, Nasir Uddin, Nomogram-based Breast Cancer Mortality Prediction in Men and Women with Different Cancer Treatments in the U.S. between 2000 and 2017, Clinical Epidemiology, APHA's 2022 Annual Meeting & Expo, title: 3267, 2022
- M Roungu Ahmmad, Md. Matair Rahman , Md. Sanwar Hossain, Azizur Rahman, The Canonical Correlation Analysis - An Application to Bank Performance and Consumers Satisfaction ,International Journal of Advanced Scientific and Technical Research, Issue 3, volume 1, January-February 2013, PP 685–694. https://rspublication.com/ijst/feb13/65.pdf
- Roungu Ahmmad, M Nurul Islam, Arif Sattar, Impact of Disability on Quality of Life of Urban Disabled People in Bangladesh, International Journal of Science and Technology, Vol.7, No.4 (2014), pp.227-238, https://article.nadiapub.com/IJUNESST/vol7_no4/21.pdf
- M Roungu Ahmmad, Dr. Saiful Haque, Providing Electricity by Digester Types on Biogas Productions from Municipal Solid Waste in Dhaka City, Bangladesh ,International Journal of Energy, Information and Communications, Vol.5, Issue 3 (2014), pp.13-22
- M Roungu Ahmmad, Dr. Saiful Haque, Statistical Analysis of the Wind Resources at the Importance for Energy Production in Bangladesh, International Journal of u- and e- Service, Science and Technology, Vol.7, No.2 (2014), pp.127-136, https://article.nadiapub.com/IJUNESST/vol7_no2/12.pdf
- **Rest can be found, Google Scholar**

Honors & Awards

- Travel Grant, 2022, SOPH and Data Science Department, University of Mississippi Medical Center for attending APHA Conference, Boston.
- Travel Grant, 2022, Big Data Health Science Conference, University of South Calorina
- Travel Grant, 2021, Data Science Department, University of Mississippi Medical Center for attending JSM Conference, Washington, D.C.
- SISG Scholarship, Institute in Statistical Genetics, Public Health, University of Washington
- Fulbright scholarship, University of Mississippi Medical Center, Jackson, Mississippi
- Dean Award, John D Bower School of Population Health, Department of Data Science, University of Mississippi Medical Center
- Book Prize, Merit Scholarship, and Kazi Motahar Hossian Award from Department of Statistics, University of Dhaka