

Awan Afiaz

DEPARTMENT OF BIostatISTICS, UNIVERSITY OF WASHINGTON, 3980 15TH AVENUE NE, SEATTLE, WA 98195, UNITED STATES

[✉ aafiaz@uw.edu](mailto:aafiaz@uw.edu) [🎓 Google Scholar](#) [🏠 Website](#) [📱 awanafiaz](#)

[🌐 LinkedIn](#) [🔗 ORCID](#)

Education

University of Washington

Seattle, WA

Ph.D. in Biostatistics; Advisor: [Dr. Jeffrey T. Leek](#)

Sept 2022 - Expected Aug 2027

- **Relevant Coursework:** Advanced Theory of Stat Inference; Advanced Regression Methods for Independent and Dependent Data; Epidemiological Methods; Bayesian Methods; Measure Theory; Statistical Consulting.

Institute of Statistical Research and Training, University of Dhaka

Dhaka, Bangladesh

Master of Science (M.S.) in Applied Statistics, GPA: 4.0/4.0

2021 - 2022

- **Relevant Coursework:** Machine Learning; Spatial Statistics; Causal Inference; Longitudinal Data Analysis.
- **M.S. Thesis:** Robust variance estimation in penalized GEE for nearly separated longitudinal binary data with small samples. Advisor: [Dr. M. Shafiqur Rahman](#). [[arXiv](#)] [[R package](#)]

Institute of Statistical Research and Training, University of Dhaka

Dhaka, Bangladesh

Bachelor of Science (B.S.) in Applied Statistics, GPA: 4.0/4.0

2017 - 2021

- **Relevant Coursework:** Generalized Linear Models; Survival Analysis; Time Series and Forecasting; Sampling Methods; Multivariate Statistics; Epidemiology; Population Studies and Demography; Econometric Modeling.
- **B.S. Project:** Impact of child's cognitive and social-emotional difficulties on child abuse using classification trees and generalized linear models. [[published](#)]

Research Experience

Graduate Research Assistant and ITCR Resource Developer

September 2022 - Present

Data Science Lab (FH DaSL), Fred Hutch Cancer Research Center

- ◇ **Supervisor:** [Dr. Jeffrey T. Leek](#)
- ◇ **Biomedical research software evaluation:** Evaluate impact metrics for NCI-funded cancer research software in the Informatics Technology for Cancer Research (ITCR) program.
 - **Paper:** Best practices to evaluate impact of biomedical research software. [[published](#)]
 - **Platform:** Built a web resource platform cataloging NCI-funded cancer research software.
- ◇ **Valid inference with AI/ML-predicted data:** Develop statistical methods for valid inference when outcomes are predicted using machine learning or artificial intelligence models.
 - **Paper 1:** Do We Really Even Need Data? A Modern Look at Inference with Predicted Data. [[arXiv](#)]
 - **Paper 2:** A Moment-Based Generalization to Post-Prediction Inference. [[arXiv](#)]
 - **Working papers:** Valid inference after predicting survival (VIPS); early-stage inference on cancer survival rates in the National Lung Screening Trial (NLST).
- ◇ **Clinical deep learning:** Develop a multimodal deep learning model for pulmonary embolism screening using chest X-ray and electrocardiogram data from MIMIC-IV. [[THSNA 2026, accepted](#)]
 - **Collaborator:** [Dr. Barbara Lam](#), Fred Hutch Cancer Research Center.
 - **Paper:** Multimodal Deep Learning for Pulmonary Embolism Screening Using Chest X-Ray and ECG Data. [[working paper](#)]
- ◇ **Open-source software development:**
 - **ipd:** R package implementing methods for statistically valid and efficient IPD. [[GitHub](#)] [[CRAN](#)]
 - **Paper:** ipd: an R package for conducting inference on predicted data. [[published](#)]
 - **scorcher:** R package with modular interface for fitting deep learning models with `torch`. [[GitHub](#)]
 - **Paper:** Scorcher: An R Package for Accessible Deep Learning in Biomedical Research. [[working paper](#)]

Undergraduate Research Assistant

June 2020 - December 2020

Institute of Statistical Research and Training, University of Dhaka

- **Project:** Early Childhood Development of Bangladeshi Children.
- **Responsibilities:** Data curation and analysis; manuscript drafting; report preparation.
- **Supervisors:** Dr. Mohaimen Mansur and Dr. Iftakhar Alam.

Independent Research Associate

2021 - 2022

University of Warwick, UK

- **Project:** Analysis of treatment effects in the presence of covariate-dependent missing data in cluster randomized trials.
- **Mentor:** Dr. Anower Hossain, University of Warwick.

Collaborative Research Projects

- **Topics:** COVID-19; BMI and cardiometabolic diseases; intimate partner violence; women's reproductive healthcare; child and adolescent health; child abuse.

Publications

Published

‡ student-supervised paper

- Salerno S, Miao J, **Afiaz A**, Hoffman K, Neufeld A, Lu Q, McCormick TH, Leek JT. (2025). ipd: An R Package for Conducting Inference on Predicted Data. **Bioinformatics**. DOI: [10.1093/bioinformatics/btaf055](https://doi.org/10.1093/bioinformatics/btaf055)
- Jitu MHI[‡], **Afiaz A**, Biswas RK. (2025). More than just visits: Timing, frequency, and determinants of effective antenatal care in Bangladesh - BDHS 2007 to 2017-18. **PLOS ONE**, 20(5), e0321686. DOI: [10.1371/journal.pone.0321686](https://doi.org/10.1371/journal.pone.0321686)
- **Afiaz A**, Ivanov A, Chamberlin J, ..., Leek JT, Wright C. (2024). Best practices to evaluate the impact of biomedical research software: metric collection beyond citations. **Bioinformatics**, 40(8). DOI: [10.1093/bioinformatics/btae469](https://doi.org/10.1093/bioinformatics/btae469)
- Biswas RK, **Afiaz A**, Huq S, Bhuiyan FM, Kabir E. (2023). Public opinion on COVID-19 vaccine prioritization in Bangladesh: Who gets the vaccine and whom do you leave out? **Vaccine**, 41(34). DOI: [10.1016/j.vaccine.2023.06.050](https://doi.org/10.1016/j.vaccine.2023.06.050)
- Biswas RK, **Afiaz A**, Huq S, Bhuiyan FM, Kabir E. (2023). Public opinion on COVID-19 pandemic in Bangladesh: disruption to public lives and trust in government's immunisation performance. **International Journal of Health Planning and Management**, 1-16. DOI: [10.1002/hpm.3721](https://doi.org/10.1002/hpm.3721)
- Mansur M, **Afiaz A**, Hossain MS. (2021). Sociodemographic risk factors of under-five stunting in Bangladesh: Assessing the role of interactions using a machine learning method. **PLOS ONE**, 16(8), e0256729. DOI: [10.1371/journal.pone.0256729](https://doi.org/10.1371/journal.pone.0256729)
- **Afiaz A**, Arusha AR, Ananna N, Kabir E, Biswas RK. (2021). A national assessment of elective cesarean sections in Bangladesh and the need for health literacy and accessibility. **Scientific Reports**, 11(1), 1-12. DOI: [10.1038/s41598-021-96337-0](https://doi.org/10.1038/s41598-021-96337-0)
- **Afiaz A**, Biswas RK. (2021). Awareness on menstrual hygiene management in Bangladesh and the possibilities of media interventions: using a nationwide cross-sectional survey. **BMJ Open**, 11(4), e042134. DOI: [10.1136/bmjopen-2020-042134](https://doi.org/10.1136/bmjopen-2020-042134)
- **Afiaz A**, Masud MS, Mansur M. (2021). Impact of child's cognitive and social-emotional difficulties on child abuse: Does mother's justification of intimate partner violence also play a role? **Child Abuse & Neglect**, 117, 105028. DOI: [10.1016/j.chiabu.2021.105028](https://doi.org/10.1016/j.chiabu.2021.105028)
- **Afiaz A**, Biswas RK, Shamma R, Ananna N. (2020). Intimate partner violence (IPV) with miscarriages, stillbirths and abortions: Identifying vulnerable households for women in Bangladesh. **PLOS ONE**, 15(7), e0236670. DOI: [10.1371/journal.pone.0236670](https://doi.org/10.1371/journal.pone.0236670)
- Biswas RK, **Afiaz A**, Huq S. (2020). Underreporting COVID-19: The curious case of the Indian subcontinent. **Epidemiology and Infection**, 148, E207. DOI: [10.1017/S0950268820002095](https://doi.org/10.1017/S0950268820002095)
- Biswas RK, Huq S, **Afiaz A**, Khan HTA. (2020). A systematic assessment on COVID-19 preparedness and transition strategy in Bangladesh. **Journal of Evaluation in Clinical Practice**, 26(6), 1599-1611. DOI: [10.1111/jep.13467](https://doi.org/10.1111/jep.13467)

- Biswas RK, Huq S, **Afiaz A.** (2020). Relaxed lockdown in Bangladesh during COVID-19: Should economy outweigh health? **International Journal of Health Policy and Management**, 9(11), 488-490. DOI: [10.34172/ijhpm.2020.98](https://doi.org/10.34172/ijhpm.2020.98)

Pre-prints/under review

- **Afiaz A**, Rahman MS. (2026). Overstuffed sandwiches and separation anxiety: finite-sample variance estimation for penalized GEE with near-separated binary data. [[arXiv](#)]
- Salerno S, Hoffman K, **Afiaz A**, Neufeld A, McCormick TH, Leek JT. (2025). Do We Really Even Need Data? A Modern Look at Drawing Inference with Predicted Data. [[arXiv](#)]
- Salerno S, Hoffman K, **Afiaz A**, Neufeld A, McCormick TH, Leek JT. (2025). A Moment-Based Generalization to Post-Prediction Inference. [[arXiv](#)]
- Jitu MHI[‡], Biswas RK, **Afiaz A.** (2025). The joint effect of mother and child's functional difficulties on anxiety and depression among children. [*Manuscript under review*]
- Biswas RK, **Afiaz A**, Jitu MHI, Chowdhury B, Sultana S, Moosa A, Kabir E, Bhowmik J, Koemel NA, Fontana L. (2025). Prevalence of hypertension and diabetes in Bangladesh: Identifying the unaware and misinformed from the recent national survey. [*Manuscript under review*]
- Biswas RK, **Afiaz A**, Koemel NA, Fontana L. (2025). Re-evaluating BMI Thresholds for Cardiometabolic Risk in South and Southeast Asia: Insights from India's National Health Survey. [*Manuscript under review*]

Teaching Experience

Graduate Teaching Assistant

University of Washington

September 2024 - June 2026

- BIOST 511: Medical Biometry I (Autumn 2024)
- BIOST 512: Medical Biometry II (Winter 2025)
- BIOST 513: Medical Biometry III (Spring 2025)
- BIOST 310: Biostatistics for the Health Sciences (Spring 2026)

Guest Lecturer

Department of Biostatistics, University of Washington

May 2025

- BIOST 513: Medical Biometry III
 - Introduction to time-dependent Cox proportional hazards models
 - Immortal time bias in survival analysis

Graduate Student Tutor

Institute of Statistical Research and Training (ISRT), University of Dhaka

January 2022 - June 2022

- Tutored undergraduate courses in probability, calculus, linear algebra, sampling distributions, statistical inference, design of experiments, and sampling methods.

Student Mentorship

Institute of Statistical Research and Training (ISRT), University of Dhaka

- **Md Hasibul Islam Jitu** (M.S., ISRT, University of Dhaka)
 - Jitu MHI, **Afiaz A**, Biswas RK. (2025). More than just visits: Timing, frequency, and determinants of effective antenatal care in Bangladesh. **PLOS ONE**. [[published](#)]
 - Jitu MHI, Biswas RK, **Afiaz A.** (2025). The joint effect of mother and child's functional difficulties on anxiety and depression among children. [*under review*]
 - Biswas RK, **Afiaz A**, Jitu MHI, Chowdhury B, et al. (2025). Prevalence of hypertension and diabetes in Bangladesh. [*under review*]
- **Bushra Chowdhury** (M.S., ISRT, University of Dhaka)
 - Biswas RK, **Afiaz A**, Jitu MHI, Chowdhury B, et al. (2025). Prevalence of hypertension and diabetes in Bangladesh: Identifying the unaware and misinformed from the recent national survey. [*under review*]

Online Student Instructor and Tutorial Maker

10 Minute School

January 2017 - December 2021

- Created **300+ video tutorials** on mathematics and statistics for students following the national curriculum. Videos are freely available on the [YouTube](#) channel of 10 Minute School.
- Conducted **10+ online live classes** on Facebook and [YouTube](#), reaching 2+ million students.

Industry Experience

Analysis Group

Boston, MA

Senior Data Science Intern (Incoming)

June 2026 - August 2026

10 Minute School (Edu-Tech)

Dhaka, Bangladesh

Department Lead, Quality Assurance and Control (QAC)

September 2017 - December 2021

- Led the QAC department with **50+ employees** for the largest education platform in Bangladesh.
- Supervised creation and review of **25,000+ digital educational assets** (19,000+ video tutorials, 800+ smart-books, and 6,400+ academic quiz sets).

Skills

Software

- **R** (expert); **Python, SAS, Stata, SPSS** (intermediate).
- Proficient in **RMarkdown/Quarto, LaTeX, Microsoft Office**, and **Google Suite**.

Statistical and Computational Skills

- Data analysis and visualization with **tidyverse** and **ggplot2**.
- R package development with **roxygen2**; Shiny apps, dashboards, and websites in **R**.
- Deep learning model development in **R** with **torch**.
- Complex survey data analysis, including DHS and MICS datasets.
- Version control with **Git/GitHub**; high-performance computing and cloud environments.

Awards & Scholarships

2025	Quazi Motahar Hossain Award and Gold Medal , QMH Foundation, Dept of Statistics and ISRT	University of Dhaka
2024	ISCB Student Conference Award , Full conference funding, International Society for Clinical Biostatistics, Thessaloniki, Greece	ISCB
2023	Biostatistics Retention and Success Scholarship , Department of Biostatistics	Univ of Washington
2022	Pat Wahl Award (\$5,000) , Recognition of commitment to strategic use of online technologies to reach diverse communities for disseminating education.	Univ of Washington
2022	UW SPH Excellence Award (\$10,000) , Awarded by UW School of Public Health	Univ of Washington
2022	Dean's Merit Award , Faculty of Sciences awardee for obtaining the highest GPA (4.0) across all departments in B.S. Honors	University of Dhaka
2022	Govt. Honors Scholarship , Talent pool, ranked 1st in the Faculty of Sciences	University of Dhaka
2021	ISRT Golden Jubilee Gold Medal Award 2021 , for graduating top of the class with GPA (4.0)	University of Dhaka
2019	ISRT Merit Stipend , Institute of Statistical Research and Training	University of Dhaka

Grants & Fellowships

Sloan Precision Oncology Technology Dissemination Award (\$250,000)

Fred Hutch Cancer Center, Seattle

Key Personnel

Nov 2025 - Oct 2027

- **Title:** Scorcher - Democratizing AI/ML Workflows for Precision Oncology.
- Co-develop the `scorcher` R package for accessible deep learning in biomedical research.
- Serve as analytic lead for the pulmonary embolism screening pilot using MIMIC-IV.
- Develop training and educational materials for clinical and cancer researchers.

Conferences & Presentations

Thrombosis & Hemostasis Summit of North America (THSNA) 2026

Portland, OR

Poster Presentation

19-21 March 2026

- **Poster:** *Multimodal Deep Learning for Pulmonary Embolism Screening Using Chest X-Ray and Electrocardiogram Data from MIMIC-IV.*
- Abstract accepted for publication in **American Journal of Hematology**.

International Conference on Applied Statistics and Data Science (ICASDS) 2025

University of Dhaka, Bangladesh

Oral Presentation

28-29 December 2025

- **Talk:** *A Moment-Based Generalization to Post-Prediction Inference.*

45th Conference of the International Society for Clinical Biostatistics (ISCB)

Thessaloniki, Greece

Oral Presentation

21-25 July 2024

- **Award:** Winner - ISCB Conference Paper Award; full conference funding.
- **Talk:** *Optimal Sandwich Variance Estimator in Penalized GEE for Nearly Separated Longitudinal Binary Data with Small Samples.*

ENAR 2024 Spring Meeting

Baltimore, MD, USA

Oral Presentation

10-13 March 2024

- **Talk:** *Optimal Sandwich Variance Estimator in Penalized GEE for Nearly Separated Longitudinal Binary Data with Small Samples.*

2nd International Conference on Applied Statistics (ICAS) 2019

University of Dhaka, Bangladesh

Poster Presentation

December 2019

- **Poster:** *Intimate partner violence (IPV) with miscarriages, stillbirths and abortions: Identifying vulnerable households for women in Bangladesh.*

Research Talks

Institute of Statistical Research and Training, University of Dhaka

Dhaka, Bangladesh

Invited Session

5 January 2026

- **Talk:** *What do we do after we have machine-learned everything?*

Institute of Statistical Research and Training, University of Dhaka

Dhaka, Bangladesh

Invited Session

18 September 2024

- **Talk:** *Optimal Sandwich Variance Estimator in Penalized GEE for Nearly Separated Longitudinal Binary Data with Small Samples.*

Professional Services

Academic/Statistical Reviewer

72 peer reviews on 45 distinct manuscripts for 18 journals

2023 - Present

- Midwifery (16 reviews on 11 manuscripts)
- PLOS ONE (10 reviews on 6 manuscripts)
- Child Abuse & Neglect (9 reviews on 6 manuscripts)
- Discover Public Health (7 reviews on 3 manuscripts)
- BMC Women's Health (4 reviews on 1 manuscript)
- BMJ Public Health (4 reviews on 3 manuscripts)
- Journal of Family Violence (4 reviews on 1 manuscript)
- SAGE Women's Health (3 reviews on 1 manuscript)
- BMC Public Health (2 reviews on 2 manuscripts)
- Discover Social Science and Health (2 reviews on 1 manuscript)
- Early Child Development & Care (2 reviews on 2 manuscripts)
- Scientific Reports (2 reviews on 2 manuscripts)
- Spatial and Spatio-temporal Epidemiology (2 reviews on 1 manuscript)
- Archives of Women's Mental Health (1 review on 1 manuscript)
- Global Social Welfare (1 review on 1 manuscript)
- International Journal of Behavioral Medicine (1 review on 1 manuscript)
- Journal of Health, Population and Nutrition (1 review on 1 manuscript)
- npj Women's Health (1 review on 1 manuscript)

Professional Affiliations

Member **International Society for Clinical Biostatistics (ISCB)**, Geneva, Switzerland

2023 - Present

Member **Western North American Region (WNAR)**, International Biometric Society

2023 - Present

Member **Eastern North American Region (ENAR)**, International Biometric Society

2023 - Present

Member **Hemostasis & Thrombosis Research Society, Inc. (HTRS)**, Milwaukee, WI, USA

2026 - Present

University Services and Activities

Member **Graduate Student Representative**, Dept of Biostatistics, University of Washington

Sep 2022 - Present

Member **Graduate Admissions Committee**, Dept of Biostatistics, University of Washington

Oct 2025 - Sep 2026

Member **Communications & Alumni Relations Committee**, Dept of Biostatistics, University of Washington

Sep 2022 - Aug 2024