

Awan Afiaz

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Education

University of Washington

Seattle, USA

Ph.D. in Biostatistics [Supervised by: [Dr. Jeffrey T Leek](#)]

Sept 2022 - Expected Aug 2027

- **Relevant Coursework:** Advanced Theory of Statistical Inference; Adv 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

2021 - 2022

- **M.S. Thesis:** On the estimation of robust variance in penalized GEE for nearly separated longitudinal binary data with small samples. [Supervisor: [Dr. M Shafiqur Rahman](#)]
- **Relevant Coursework:** Machine Learning; Spatial Statistics; Causal Inference; Longitudinal Data.

Institute of Statistical Research and Training, University of Dhaka

Dhaka, Bangladesh

Bachelor of Science (B.S.) in Applied Statistics

2017 - 2021

- **Relevant Coursework:** Generalized Linear Models (GLMs); Survival Analysis; Time Series and Forecasting; Sampling Methods; Multivariate statistics: PCA, FA, Classification, Clustering; Epidemiology; Population Studies and Demography; Economics; Actuarial Statistics; 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](#)
- ◇ **Project 1:** Evaluating impact of biomedical research software
 - **Paper:** Best practices to evaluate impact of biomedical research software: metric collection beyond citations [[published](#)]
 - **Platform:** Built and maintained a web resources platform cataloging NCI-funded cancer research software for the Information Technology for Cancer Research (ITCR) program.
- ◇ **Project 2:** *Valid statistical inference with Machine Learning/Artificial Intelligence predicted data*
 - **Paper 1:** Do We Really Even Need Data? A Modern Look at Drawing Inference with Predicted Data [[arXiv](#)]
 - **Paper 2:** A Moment-Based Generalization to Post-Prediction Inference [[arXiv](#)]
 - **Paper 3:** Valid Inference after Predicting Survival (VIPS) with missingness and censoring [[working paper](#)]
 - **Paper 4:** Early-Stage Inference on Cancer Survival Rates in the National Lung Screening Trial (NLST) [[working paper](#)]
- ◇ **Project 3:** *Multimodal Deep Learning for Pulmonary Embolism Screening Using Chest X-Ray and Electrocardiogram Data using 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 Electrocardiogram Data [[working paper](#)]
- ◇ **Software development:**
 - **R-package 1:** `ipd` Implements multiple methods for statistically valid and efficient inference with predicted data (IPD) [[github](#)] [[CRAN](#)]
 - **Paper:** `ipd`: an R package for conducting inference on predicted data [[published](#)]
 - **R-package 2:** `scorcher` Provides high-level functionality for building and fitting deep learning models using `torch` library in R [[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 and report preparation.
- Supervisors: [Dr. Mohaimen Mansur](#) and [Dr. Iftakhar Alam](#)

Independent Research Associate

2021 - 2022

University of Warwick, UK

- **Project:** Analysis of treatment effect in the presence of covariate-dependent missing data in Cluster Randomized Trials (CRT)
- Mentor: [Dr. Anower Hossain](#), University of Warwick

Collaborative Research Projects

- **Topics:** COVID-19, BMI and Cardiometabolic diseases, Intimate partner violence (IPV), women's reproductive healthcare, children 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), e032168. 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. **Int J Health Plann Mgmt** 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):1599-611. 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.

Pre-prints/under review

- 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 Model
 - Immortal time bias in survival analysis

Graduate Student Tutor

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

January 2022 - June 2022

- **Mathematics and Statistics tutor** for undergraduate courses: ASTAT 101: Elements of Applied Statistics; ASTAT 102: Probability; ASTAT 105: Calculus, ASTAT 107: Linear Algebra, ASTAT 201: Sampling Distributions, ASTAT 203: Statistical Inference; ASTAT 204: Design of Experiments; ASTAT 206: Sampling Methods.

Online Student Instructor and Tutorial Maker

10 Minute School

January 2017 - December 2021

- Created **300+ video tutorials on mathematics and statistics** for national curriculum based students. Available for free on the [YouTube](#) channel of 10 Minute School.
- Conducted **10+ online Live Classes** on Facebook and [YouTube](#) teaching over 2+ million students to date.

Student Mentorship

- **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]

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

- Spearheaded the QAC department with **over 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 6400+ academic quizsets).

Skills

Software skills

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

Technical skills

- Data analysis and visualization using **tidyverse** and **ggplot2** packages.
- Creating R-packages using **Roxygen2**.
- Shiny app, website and dashboard building using **R**.
- Deep learning model development in **R**.
- Complex survey data analysis (DHS, MICS).
- Version control with **Git/GitHub**.
- High-performance computing (HPC) cloud environments.

Grants & Fellowships

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

Fred Hutch, WA, USA

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.

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

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 using 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 reviewer

Total 63 reviews for 18 Journals

2023 - Present

- Midwifery (15)
- PLOS One (11)
- Child Abuse & Neglect (8)
- BMJ Public Health (4)
- Discover Public Health (3)
- SAGE Women's Health (3)
- Journal of Family Violence (3)
- Spatial and Spatio-temporal Epidemiology (2)
- Scientific Reports (2)
- BMC Women's Health (2)
- BMC Public Health (2)
- Early Child Development & Care (2)
- Nature NPJ Women's Health (1)
- Journal of Health, Population and Nutrition (1)
- Discover Social Sciences and Health (1)
- Int Journal of Behavioral Medicine (1)
- Global Social Welfare (1)
- Archives of Women's Mental Health (1)

Professional Affiliations

Member **International Society for Clinical Biostatisticians (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