



NAME :MUHAMMAD FAROOQ

Personal Information	F/Name: Muhammad Zarin Gender: Male Place of Birth: Mardan, Khyber Pakhtunkhwa Date of Birth: February 04, 1984. Marital status: Married Nationality : Pakistani Languages: English (Fluent), Urdu (advanced), Pashto (Native) Current Address: Department of Statistics, University of Peshawar. Permanent Address: Village & P/O Hathian, Tehsil: Takht Bhai District: Mardan, Khyber Pakhtunkhwa, Pakistan E-mail: m.farooq@uop.edu.pk Cell : +923339500475
Education	Institutions
Ph.D	University of Peshawar, Department of Statistics, Khyber Pakhtunkhwa, Pakistan. Performance: (1st Division, CGPA 3.9/4) Topic: Development of lifetime families of distributions with an application to the Weibull distribution
M.Phil	University of Peshawar, Department of Statistics, Khyber Pakhtunkhwa, Pakistan. Performance: (1st Division, CGPA 3.1/4) Topic: Naïve Bayes approach for the classification of thalessemia patients
M.Sc (Statistics) 2005-2006	University of Peshawar, Department of Statistics, Khyber Pakhtunkhwa, Pakistan. Performance: (1st Division, Marks 868/1200) Major courses: Probability, Sampling, Econometrics, Experimental Design, Statistical Inference etc.
B.Sc 2003-04	Islamia College Peshawar Performance: (1st Division, Marks 349/550) , Major courses: Maths (A), Maths(B), Statistics
Intermediate 2001-02	Islamia College Peshawar . Performance: (1st Division, Marks 750/1100) , Major courses: Economics,

	Statistics, Mathematics
SSC (Humanities) 2000	Government Higher Secondary School Hathian, Mardan, Pakistan. Performance: (1st Division, Marks 617/850) , Major courses: Mathematics, Physics, Chemistry etc.
Job Experience	Lecturer (BPS-18) in Department of Statistics, University of Peshawar from 1st November 2011 to 20th February 2012 and lecturer in the department of Statistics University of Malakand from 20th Feb 2012 to 4 October 2016, lecturer in the department of Statistics University of Peshawar Since 5th October 2016 to Date.
Service Activity	1. BS and Master Coordinator in the department of Statistics University of Malakand (UoM). 2. Served as Staff Proctor, University of Malakand. 3. Serving as an assistant Coordinator in department of Statistics University of Peshawar (UoP) 4. Serving as a staff proctor in university of Peshawar since 2025
Research Interest	1. Biostatistics. Statistical modelling, Probability modeling, Structural Equation Modelling (SEM)
Courses taught	Introduction to Statistics, Introduction to Probability distribution, Basic statistical inference, Sampling theory, Linear algebra and Numerical analysis, Probability and Probability distributions, Mathematical Statistics, Operation research, Survival analysis, Research Methodology, Non-parametric Methods, Inference theory, Statistical Packages, Exploratory data analysis, Categorical data analysis
Research Papers	
1. Ali, S., Naz, N., Muhammad, D., Khanum, S., Naqvi, S. M. S. A., Amanullah, R., Farooq M, Ajmal H & Arshad, S. (2026). Understanding the need and feasibility of a transitional care training program for family caregivers of geriatric stroke survivors. <i>BMC nursing</i>. 2. Javed, M., Shah, S. F., Osama, M., Atif, M., & Farooq, M. (2025). New Bivariate Type-2 Gumbel Distribution Based on the Farlie--Gumbel--Morgenstern Copula: Properties and its Application In Survival Analysis. <i>Applications & Applied Mathematics</i>, 20(2). 3. Muhammad Bilal, Dr. Qamruz Zaman, & Dr. Muhammad Farooq. (2025). Determinants of the Obstacles To Contraceptive Methods in Pakistan: An Empirical Analysis From Pakistan Demographic and Health Survey 2017-2018. <i>Dialogue Social Science Review (DSSR)</i>, 3(7), 82–94. 4. Fazal Shakoor, Muhammad Atif, Khazan sher, Sajid Khan, Shumaila Wazir, & Muhammad Farooq. (2025). Optimized Variance Estimation in Simple Random Sampling with Auxiliary	

Information. *Dialogue Social Science Review (DSSR)*, 3(8), 230–238.

5. Khan, S., Farooq, M., Mustafa, M. S., Mohamed, E. I., M. Hussein, E. M., Ahmad, S., & Hussain, S. (2025). A Modified Exponential Estimator Using Auxiliary Information Under Stratified Sampling with Non-Response: S. Khan et al. *National Academy Science Letters*, 1-19.
6. KHAN, S., FAROOQ, M., AHMAD, S., MUSTAFA, M., MOHAMED, E., HUSSAIN, E., & ATIF, M. Improved estimation of population parameter in the existence of non-response using auxiliary information.
7. Khan, S., Farooq, M., Ahmad, S., Mustafa, M. S., Mohamed, E. I., Hussain, E. M., & Albadwi, F. I. A. (2025). On Use of Predictive Technique for Estimation of Population Mean Using Auxiliary Information: Application on Real Data Sets. *European Journal of Pure and Applied Mathematics*, 18(2), 6019-6019.
8. Atif, M., Ayub G., Zahid A., Farooq M., Habib Shah S H., Ilyas M., Shafiq M., (2025). Decoding academic choices: Exploring factors Influencing students' pursuit of statistics as a major in The evolving educational landscape. *Policy Research Journal*, 3(2), 526-539
9. Atif, M., Farooq, M., Shafiq, M., Alballa, T., Abdualziz Alhabeeb, S., & Abd El-Wahed Khalifa, H. (2024). Uncovering the impact of outliers on clusters' evolution in temporal data-sets: an empirical analysis. *Scientific Reports*, 14(1), 30674.
10. Khan, S., Farooq, M., Ahmad, S., & Khan, S. (2024). Improved estimator for estimation of population mean using predictive approach under PPS sampling. *VFAST Transactions on Mathematics*, 12(2), 01-16.
11. Shumaila Wazir, Muhammad Atif, Neelam, Hassan Yar Ud Din, Soofia Iftikhar, Muhammad Farooq, ... Mujeeb Hussain. (2024). Family Of Enhanced Estimators For Population Mean Using Auxiliary Information Under Simple Random Sampling. *Kurdish Studies*, 12(5), 1320–1327.
12. Fazal Shakoor, Muhammad Atif, Soofia Iftikhar, Mehwish Dalail, Najma Salahuddin, Sundus Hussain, ... Qamruz Zaman. (2023). An Improved Exponential Estimator Of The Finite Population Mean In Simple Random Sampling Utilizing Double Auxiliary Variables. *Kurdish Studies*, 12(5), 1435–1440.
13. Khan, S., Farooq, M., Sardar Hussain, S. A., Atif, M., & Ilyas, M. (2024). Comprehensive Class Of Estimators For Estimation Of Population Mean Under Stratified Sampling: Application With Real Data Sets And Simulation Analysis.
14. Sofia, M. F., Ali, M., Qasim Shah, M. A., & Zaman, Q. (2024). Exponent Beta Pareto Distribution with Applications in Real and Simulated Dataset.
15. Muhammad Farooq, Muhammad Atif, Muhammad Shafiq, Mohammad Abiad, A Novel Distribution in the Family of Lifetime Distributions for Enhancing Predictive Modeling for Medical and Engineering Data, *Int. J. Anal. Appl.*, 22 (2024), 172.

16. Atif, M., Ayub, G., Shakoar, F., Farooq, M., Iqbal, M., Zaman, Q., & Ilyas, M. (2024). Evolution of waterborne diseases: A case study of Khyber Pakhtunkhwa, Pakistan. *SAGE Open Medicine*, 12, 20503121241263032.
17. Khan, I. K., Daud, H. B., Zainuddin, N. B., Sokkalingam, R., Farooq, M., Baig, M. E., ... & Zafar, M. (2024). Determining the optimal number of clusters by Enhanced Gap Statistic in K-mean algorithm. *Egyptian Informatics Journal*, 27, 100504.
18. Atif, M., Ayub, G., Zeb, J., Farooq, M., Ilyas, M., Shafiq, M., & Shah, S. H. (2024). Variability in Reproductive Choices: A Comprehensive Analysis of Women's Working Status and Fertility Behavior in Pakistan. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 61, 00469580241237106.
19. Atif, M., Farooq, M., Abiad, M., & Shafiq, M. (2024). The least sample size essential for detecting changes in clustering solutions of streaming datasets. *Plos one*, 19(2), e0297355.
20. Atif, M., Farooq, M., Shafiq, M., Ayub, G., & Ilyas, M. (2023). The impact of partner's behaviour on pregnancy related outcomes and safe child-birth in Pakistan. *BMC Pregnancy and Childbirth*, 23(1), 516.
21. Atif, M., Shafiq, M., Farooq, M., Ayub, G., Leisch, F., & Ilyas, M. (2023). Monitoring Changes in Clustering Solutions: A Review of Models and Applications. *Journal of Probability and Statistics*, 2023.
22. Farooq, M., Ijaz, M., Atif, M., Abushal, T., & El-Morshedy, M. (2022). Statistical analysis of Covid-19 mortality rate via probability distributions. *PLoS One*, 17(10), e0274133.
23. Atif, M., Shafiq, M., Farooq, M., Ayub, G., Hussain, M., & Waqas, M. (2022). Evolution of basic human values orientations: An application of monitoring changes in cluster solutions. *Plos one*, 17(9), e0274600.
24. Dar, J. G., Ijaz, M., Almanjahie, I. M., Farooq, M., & El-Morshedy, M. (2022). Statistical Analysis of the COVID-19 Mortality Rates with Probability Distributions: The Case of Pakistan and Afghanistan. *Computational and Mathematical Methods in Medicine*, 2022.
25. Farooq, M., & Ijaz, M. (2022). A new approach for modeling covid-19 death data. *Journal of Intelligent & Fuzzy Systems*, 42(4), 3491-3499.
26. Farooq, M., Ijaz, M., Shah, S. F., & Kilai, M. (2021). A Novel Approach to Increase the Goodness of Fits with an Application to Real and Simulated Data Sets. *Mathematical Problems in Engineering*, 2021.
27. Ijaz, M., Khan, A. U., Asim, S. M., Hayat, Y., Shah, S. H., & Farooq, M. (2020). A NEW RATIO TYPE ESTIMATOR TO ESTIMATE THE POPULATION MEAN USING AUXILIARY

INFORMATION.

28. Ijaz, M., Asim, S. M., Farooq, M., Khan, S. A., & Manzoor, S. (2020). A Gull Alpha Power Weibull distribution with applications to real and simulated data. *PloS one*, 15(6), e0233080.
29. Zaman Q, Atif M, Iqbal M, Bibi A, Shah SH, Farooq M, Rafiq M, Pfeiffer KP. (2014). Estimation of Survival Probabilities in the Presence of Ties. *Life Science Journal*. 11(10s): 155-164.
30. Atif M, Zaman Q, Iqbal M, Farooq M, Aisha B. (2014). Cost Effective Analysis of Chemotherapy Treatment: A Study of Cancer patients. *Life Science Journal*. 11(10s): 92-99.
31. Zaman Q, Gul A, Ayub G, Atif M, Khusro S, Iqbal M, Farooq M, Shah H. (2011). Incidence of Stroke in North West Frontier Province of Pakistan. *Journal of Contemporary Medicine* 1(2): 35-41.
32. Zaman Q, Atif M, Farooq M, Ilyas M, Rabbi F, Ali A, Shah H, Iqbal M, Khusro S (2011). Political Federations are One of the Main Causes of Increasing Level of Anxiety among the University Students. *International Journal of Business and Social Science* 2(19): 117-122.
33. Zaman Q, Atif M, Farooq M (2011). Standard of Education and Economic Conditions are the Main Causes of the Failure of SAARC: A comparative study of SAARC and EU. *Interdisciplinary Journal of Research in Business*. 1(3): 15-22.
34. Zaman Q, Atif M, Shah HB, Ullah I, Farooq M, Gohar A (2011). Male Students are More Stressed than Female Due To Social Class Differences in Peshawar (Pakistan). *Asian Social Science*. 7(1): 148- 154.
35. Zaman Q, Atif M, Shah HB, Ayub G, Farooq M (2010). Key Factors Which Cause the Anxiety Among the University Students: A case study Based on an Event Happened in Peshawar Campus. *European Journal of Social Sciences*. 16(1): 87-96.