# **REHAN AHMAD KHAN SHERWANI**

**Professor – Statistics (BPS-21)** 

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Quantitative Reasoning

Mortality Data Analysis

Life Contingency & Life Tables

Probability

# VISION AND MISSION

I am looking to Perceive, Propose, and Promote research in Applied Statistics, Data Mining, and Quantum Computing. I am committed to advancing knowledge through rigorous research, fostering interdisciplinary collaboration, and promoting impactful applications. My goal is to empower learners and researchers to harness data and computation for solving complex, real-world challenges.

# **AREAS OF INTEREST**

Statistical Modeling, Control Charts, Applied Statistics, Distribution Theory, Meta-Analysis, Data Mining, and Quantum Computing.

# **TEACHING EXPERIENCE**

### College of Statistical Sciences, Punjab University, Lahore - Pakistan (2008-date)

Teach the following Courses to the classes of BS, M.Sc. M.Phil., and Ph.D. statistics degree programs.

| • | FORTRAN 77              | ٠ | Statistical Computer Packages    | ٠ | Structural Equation Mod |       |      |
|---|-------------------------|---|----------------------------------|---|-------------------------|-------|------|
|   |                         |   | (SPSS/ SPSS Modeler/ STATA/ SAS) |   | (AMOS/ LISRE            | L/ R) |      |
| ٠ | <b>Research Methods</b> | ٠ | Multilevel Models                | ٠ | Probability             | &     | Prol |
|   |                         |   | (mLwin/ SPSS/ R)                 |   | Distributions           |       |      |

- (mLwin/SPSS/R) Design & Analysis of Experiments
- **Business Statistics** • Biostatistics
- Multivariate Analysis
- Demography
- Survival Analysis
- Institute of Business and Information Technology, Punjab University, Lahore Pakistan (2013-19) Visiting Faculty: Teach the courses of Business Statistics, and Statistics for Business Decision Making to the BBIT and MBIT degree programs. The courses covered both foundational and advanced topics of data cleaning, data mining, and data analytics with hands-on learning on SPSS and SPSS Modeler to address the real-world computational challenges associated with large datasets.

#### National University of Computer and Emerging Sciences (FAST), Lahore – Pakistan (2013-19)

Visiting Faculty: Teach the courses of Business Statistics, and Statistics for Business Decision Making to the BBIT and MBIT degree programs. The courses covered both foundational and advanced topics of data cleaning, data mining, and data analytics with hands-on learning on SPSS and SPSS Modeler to address the real-world computational challenges associated with large datasets.

#### Institute of Business Administration (IBA), Punjab University, Lahore – Pakistan (2009, 2021, 2022)

Visiting Faculty: Teach the courses of Mathematics and Statistics for Management, Advanced Statistics to the BBA and MBA-Executive degree programs. The courses covered a wide range of basic to advanced statistical methods and data mining techniques that also incorporated hands-on training using leading statistical and data mining software tools, including SPSS, SPSS Modeler, and Orange Data Mining.

#### University of Health Sciences (UHS), Lahore - Pakistan (2025)

Visiting Faculty: Design and teach a course of *Advanced Biostatistics* to the Ph.D. in Public Health degree program. The course was structured to provide both theoretical foundations and practical exposure to advanced statistical and data mining methods with hands-on experience on *SPSS, SPSS Modeler and Orange Data Mining*.

#### PAK AIMS: The Institute of Management Sciences, Lahore – Pakistan (2016)

Visiting Faculty: Teach a course of *Business Statistics* to the MBA-Executive degree program. The course covered the basic and advanced topics of statistics and data mining with hands on experience on SPSS and SPSS Modeler.

#### Institute of Biochemistry and Biotechnology (IBB), Punjab University, Lahore – Pakistan (2009-18)

Visiting Faculty: Design and teach the courses of Biostatistics, and Advanced Biostatistics to the undergraduate (BS Biochemistry, BS Biotechnology) and doctoral (Ph.D. Biochemistry, Ph.D. Biotechnology) degree programs. The courses are aligned with emerging trends in data science and life sciences research with emphasized on the practical application of statistical and data mining techniques using SPSS and Orange Data Mining, equipping students with skills in gene expression analysis, identification of differentially expressed genes, gene set enrichment, predictive modeling for disease diagnostics, and risk factor analysis.

#### Institute of Biochemistry and Biotechnology (IBB), Punjab University, Lahore – Pakistan (2009-18)

Visiting Faculty: Design and teach the courses of Introductory Statistics, and Applied Statistics to the undergraduate classes of BS Nutrition and Food Sciences. The courses covered both fundamental and advanced topics in data cleaning, data mining, and statistical analysis. The curriculum was designed to equip students with Dietary Pattern Analysis and Personalized Nutrition through the use of classification, clustering, association rule learning, and regression methods with emphasis on hands-on training with leading statistical and data mining software tools such as SPSS, SPSS Modeler, and Orange Data Mining.

#### Department of Space Science, Punjab University, Lahore – Pakistan (2018-19) Institute of Communication Studies, Punjab University, Lahore – Pakistan (2010) Hailey College of Commerce, Punjab University, Lahore – Pakistan (2008, 2014, 2015, 2022, 2023) Institute of Chemistry, Punjab University, Lahore – Pakistan (2009-15) Visiting Faculty: Design and teach the courses of Introductory Statistics, Advanced Statistics, Biostatistics,

and Business Statistics to the BS, M.Phil., and Ph.D. degree programs. These courses covered a range of topics on statistical learning with hands on practice on SPSS, SPSS Modeler and STATA.

### WORKSHOPS/SEMINARS/CONFERENCES

### **RESOURCE PERSON**

- Two days hands-on practice workshop on "Data Visualization and Mining Tools for Management Sciences" held on 16-17 May, 2025 at HSM, University of Management & Technology, Lahore-Pakistan.
- One day workshop on "Quantitative Reasoning" held on February 26, 2025 at Department of Statistics, Govt. College University Lahore, Pakistan.
- Two days hands-on practice workshop on "Psychological Data Analysis: A Hands-On Workshop with Orange and SPSS Modeler" held on 20-21 January, 2025 at Institute of Applied Psychology, University of the Punjab, Lahore-Pakistan.
- One day hands-on practice workshop on "Advanced Data Analysis using Structural Equation Modeling with AMOS" held on January 08, 2025 at Institute of Applied Psychology, University of the Punjab, Lahore-Pakistan.
- One day hands-on practice workshop on "Smart Analytics: Classification and Predictive Modeling with Orange Data Mining" held on December 23, 2024 at PATHWAYS Global Education, Lahore-Pakistan.

- Two days hands-on practice workshop on "Disease Classification using Data Mining Techniques for Healthcare Professionals" held on 18-19 November, 2024 at Sahara Medical College, Narowal-Pakistan.
- One day hands-on practice workshop on "Statistical Analysis" held on August 12, 2024 at University of Jhang, Jhang-Pakistan.
- **4** One day hands-on practice workshop on "Data Mining and Analysis with Orange and SPSS" held on April 10, 2024 at Institute of Applied Psychology, University of the Punjab, Lahore-Pakistan.
- One day seminar on "Importance of Statistics" held on November 06, 2023 at Queen Marry College, Lahore-Pakistan.
- One day hands-on practice workshop on "Data Management and Quantitative Analysis using SPSS" held on March, 2023 at HSM, University of Management & Technology, Lahore-Pakistan.
- One day hands-on practice workshop on "Structural Equation Modelling with AMOS and SmartPLS" held on February 01, 2023 at Institute of Applied Psychology, University of the Punjab, Lahore-Pakistan.

\* conducted multiple workshops on SPSS/STATA/SPSS Modeler from one day to five days at College of Statistical Sciences, University of the Punjab, Lahore-Pakistan.

### **KEYNOTE SPEAKER**

- "Quantum Computing and Statistics", Third PISTAR International Conference on Global Statistics, ISOSS House, Lahore, Pakistan February, 2025.
- "Quantum Computing and Statistics", 3<sup>rd</sup> Global Science, Technology, and Management Conference (GSTMC-25), University of Jhang, Jhang, Pakistan January, 2025.
- "Quantum Computing and Statistics", Third International Conference on Recent Trends in Statistics and Data Analytics, NUST, Islamabad, Pakistan December, 2024.
- "Multilevel Models & Applications", 3<sup>rd</sup> International Conference on Statistical Sciences: Data Analytics and Official Statistics for Governance, GCU, Lahore, Pakistan October, 2023.
- "Big Data & Business Analytics", 2<sup>nd</sup> International Conference on Business Administration, IBA, Lahore, Pakistan March, 2023.

\* Organized/participated/presented/Session Chaired in multiple national and international conferences.

### **PROFESSIONAL SERVICES**

- Editor/Associate Editor/Managing Editor, Pakistan Journal of Statistics and Operations Research (IF 1.15), College of Statistical Sciences, Punjab University, Lahore-Pakistan (2008-date).
- **Expert, MICS7 Data Integration and Report Compilation (DIRC) Workshop, Planning & Development Board/UNICEF, Govt. of the Punjab, Pakistan (2024).**
- Coordinator, BS in Biostatistics degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2021-date).
- Controller of Examination, BS in Biostatistics degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2021-date).
- Coordinator, Master in Business Statistics and Management (MBSM) degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2014-20).
- Controller of Examination, Master in Business Statistics and Management (MBSM) degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2014-20).

- Coordinator, BS in Actuarial Sciences degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2020-23).
- Controller of Examination BS in Actuarial Sciences degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2020-23).
- **4** Chairman, Shops/Canteens/Kiosks Committee, Punjab University, Lahore-Pakistan (2025-date).
- Chairman, Purchase Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2015-date).
- Chairman, Associate Degree Program (ADP) for the subject of Statistics, Punjab University, Lahore-Pakistan (2019-20).
- Chairman, Curriculum Development Committee for BS in Actuarial Sciences degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2017-18).
- Chairman, Curriculum Development Committee for BS in Operations Research degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2017-18).
- Chairman, Curriculum Development Committee for BS in Data Sciences degree program, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2019-20).
- Chairman, Curriculum Revision Committee for BS (Statistics) & BS (Biostatistics) according to HEC Undergraduate Policy 2024, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2024).
- Chairman, Constitution of Statistical Research and Consultancy Centre Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2023-24).
- Chairman, College Quality Assurance Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2019-21).
- Chairman, College Disciplinary Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2023-date).
- Chairman, College Sports Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2022-24).
- Chairman, College Annual Function Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2022).
- **4** Focal Person, Quality Steering Committee, Punjab University, Lahore-Pakistan (2018-19).
- Focal Person, Office of Research Innovation & Commercialization (ORIC), College of Statistical Sciences, Punjab University, Lahore-Pakistan (2023-24).
- Focal Person, Intercollegiate Sports Championship, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2018-20).
- Member, National Committee to Evaluate Research Journals of Physical Sciences, Higher Education Commission (HEC) of Pakistan, Islamabad-Pakistan (2021-date).
- **4** Member, Senate, Punjab University, Lahore-Pakistan (2022-date).
- **4** Member, Academic Council, Punjab University, Lahore-Pakistan (2022-date).
- **4** Member, Faculty Board for Sciences, Punjab University, Lahore-Pakistan (2020-date).
- Member, Department Doctorate Coordination Committee (DDPC), College of Statistical Sciences, Punjab University, Lahore-Pakistan (2013-date).

- **4** Member, Punjab Technical Committee for Census 2017, Govt. of Punjab, Pakistan (2017-18).
- **4** Member, Faculty of Science Purchase Committee, Punjab University, Lahore-Pakistan (2019-24).
- **Wember**, Career Counseling and Placement Committee, Punjab University, Lahore-Pakistan (2021-23).
- Member, Temporary/Daily Wages Administrative Staff Recruitment Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2022).
- Member, Board of Studies for Statistics, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2017-date).
- Member, Board of Studies for Statistics, Department of Statistics, Govt. College University Faisalabad, Faisalabad-Pakistan (2018-24).
- Member, Board of Studies for Data Sciences, Centre for Data Science, Govt. College University Faisalabad, Faisalabad-Pakistan (2020-23).
- Member, Board of Studies for Statistics, Department of Statistics, Govt. College University Lahore, Lahore-Pakistan (2024-date).
- Member, Board of Studies for Remote Sensing, Centre for Remote Sensing, Punjab University, Lahore-Pakistan (2021-date).
- Member, Board of Studies for Statistics, Department of Statistics, University of Gujrat, Gujrat-Pakistan (2025-date).
- Member, Board of Studies for Statistics, Department of Statistics, University of Jhang, Jhang-Pakistan (2022-date).
- Member, Board of Studies for Statistics, Department of Statistics, Women University of Sialkot, Sialkot-Pakistan (2022-date).
- Member, Board of Studies for Statistics, Department of Statistics, Bahauddin Zakarya University, Multan-Pakistan (2018-date).
- Member, Board of Studies for Statistics, Department of Statistics, Home Economics University, Lahore-Pakistan (2023-date).
- Member, Chief Minister's Honhaar Scholarship, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2024).
- Member, Faculty Eligibility Determination Committee for Statistics, Faculty of Sciences, Punjab University, Lahore-Pakistan (2024-25).
- Member, Board of Faculty of Sciences Sub-Committee to review the scheme of studies for BS Biophysics & Nantechnology, Solid State Physics, Punjab University, Lahore-Pakistan (2025).
- Member, College Admission's Committee for BS, M.Phil. and Ph.D. degree programs, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2014-date).
- Member, University Disciplinary Committee for Examinations, Controller of Examinations, Punjab University, Lahore-Pakistan (2023-date).
- Member, Departmental TTS Review Committee, College of Statistical Sciences, Punjab University, Lahore-Pakistan (2023-date).
- Member, Departmental TTS Review Committee, Department of Statistics and Computer Sciences, University of Veterinary and Animal Sciences, Lahore-Pakistan (2021-date).
- **4** Member, Multidimensional Poverty Index (MPI) Training Workshop, United Nations, Oxford

University, Ministry of Planning, Development and Reform, Islamabad-Pakistan (2018).

- Reviewer, Reviewed multiple research articles for national and international journals including Journal of Applied Statistics, Journal of Mathematics, Kuwait Journal of Sciences, PLOS One, International Journal of Leadership and Behavior, journal of Statistics, Pakistan Journal of Statistics, Symmetry, etc.
- **4** External Examiner, Evaluation of Ph.D., M.Phil., and BS research thesis/projects/reports for multiple departments in several universities in Pakistan (2006 to date).

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|-------------|------|--|---|------------------------|--|-------------|
| <b>S.</b> # | Year | Title  | Donor Agency  | Amount<br>(million Rs) | Role                                   | Status      |
| 1.          | 2025 | Development of the Quantum Statistical Methods<br>and Applications to Medical Diagnostics  | Higher Education<br>Commission,<br>Pakistan                 | 15.5                   | Principal<br>Investigator              | Submitted   |
| 2.          | 2025 | Forecasting Electricity Demand and Supply for the Sustainable Policy Solutions for Pakistan  | Higher Education<br>Commission,<br>Pakistan                 | 7.0                    | Co-PI                                  | Submitted   |
| 3.          | 2025 | Classical and Quantum Machine Learning<br>Methods for Data Analysis in High Energy Physics   | Higher Education<br>Commission,<br>Pakistan                 | 10.0                   | Co-PI                                  | Submitted   |
| 4.          | 2024 | The Power of Quantum computing in Investment<br>Predictions: A Case Study on Pakistan's Economic<br>and Social Dynamics                  | Rasta, PIDE   | 5.0                    | Principal<br>Investigator              | In review   |
| 5.          | 2024 | Estimating the Economics of Climate Change in Pakistan   | Rasta, PIDE   | 5.0                    | Co-PI                                  | In review   |
| 6.          | 2024 | Applications of Quantum Computing in<br>Agriculture: Systematic Review and Meta-Analysis   | University of the<br>Punjab, Pakistan                       | 0.300                  | Principal<br>Investigator              | Completed   |
| 7.          | 2023 | A Note on Some Basic Experimental Design<br>Methods under Interval Data  | University of the<br>Punjab, Pakistan                       | 0.300                  | Principal<br>Investigator              | Completed   |
| 8.          | 2023 | Pedagogical Workshops for Cultivating the<br>Humanities and Social Science Research in Lahore<br>– Pakistan.                             | Association for<br>Asian studies, Inc                       | 3.64                   | Principal<br>Investigator              | Submitted   |
| 9.          | 2023 | Estimation of Arts and Cultural Related Spending<br>by the Audiences and its Impact on Economy of<br>the Pakistan                        | UNESCO  | 28.37                  | Principal<br>Investigator              | Submitted   |
| 10.         | 2023 | Investigating Cholera Hotspots, Optimal<br>Vaccination Strategies and its impact on Cholera<br>Incidence in Faisalabad, Punjab, Pakistan | Wellcome<br>Foundation, UK                                  | 631.36                 | Principal<br>Investigator              | Submitted   |
| 11.         | 2022 | Estimation of Financial, Social and Psychological<br>Burden on Caregivers of COVID-19 Patients in<br>Punjab-Pakistan                     | Higher Education<br>Commission,<br>Pakistan                 | 2.5                    | Principal<br>Investigator              | Completed   |
| 12.         | 2022 | Fixed and Random Effect Meta-Analysis of Patient<br>Preferences for Laboratory Results Notification                                      | University of the<br>Punjab, Pakistan                       | 0.250                  | Principal<br>Investigator              | Completed   |
| 13.         | 2022 | Effect of Dr Allen's Device for Prostate Treatment<br>on Erectile Dysfunction in Men with Chronic<br>Prostate Diseases: BPH and CP/CPPS  | Director of Fine<br>Treatment,<br>Oxford, United<br>Kingdom | 1.8                    | Co-<br>PI/Consultant<br>(Statistician) | Approved    |
| 14.         | 2022 | Estimation of Economic Burden of Cardiovascular<br>Diseases in the Capital City of Punjab-Pakistan                                       | National Institute<br>of Health                             | 2.0                    | Principal<br>Investigator              | In-progress |
| 15.         | 2021 | Ensuring quality fortification within food<br>distribution networks for vulnerable populations<br>during/post-Covid in Pakistan          | Global Alliance<br>for Improved<br>Nutrition (GAIN)         | 24.6678                | Co-<br>PI/Consultant<br>(Statistician) | Completed   |
| 16.         | 2021 | Thermobalancing therapy and Dr. Allen's device<br>for kidney stone disease   | Director of Fine<br>Treatment,<br>Oxford, United<br>Kingdom | 1.8                    | Co-<br>PI/Consultant<br>(Statistician) | Completed   |
| 17.         | 2021 | Thermobalancing therapy and Dr. Allen's device for low back pain.  | Director of Fine<br>Treatment,<br>Oxford, United<br>Kingdom | 1.5                    | Co-<br>PI/Consultant<br>(Statistician) | Completed   |

### FUNDED RESEARCH PROJECTS

| 18. | 2020 | Molecular genetic investigation of isolated<br>ventricular septal defects (VSDS) in Pakistani<br>children and designing a prenatal screening and<br>awareness strategy | Higher Education<br>Commission,<br>Pakistan                               | 1.6   | Statistical<br>Analyst    | Under<br>Review |
|-----|------|--|---|-------|---------------------------|-----------------|
| 19. | 2019 | Meta-Analysis of genotypes of hepatitis C virus<br>(HCV) in Pakistan   | University of the<br>Punjab, Pakistan                                     | 0.150 | Principal<br>Investigator | Completed       |
| 20. | 2017 | CPEC and its impact on political, social &<br>economic development in Pakistan: prospects from<br>youth in higher education institutions in Punjab,<br>Pakistan        | Punjab Higher<br>Education<br>Commission<br>(PHEC)                        | 2.991 | Principal<br>Investigator | Under<br>Review |
| 21. | 2016 | Awareness about the importance & scope of<br>statistics education among secondary standard<br>school children  | Higher Education<br>Commission &<br>University of the<br>Punjab, Pakistan | 0.990 | Principal<br>Investigator | Completed       |
| 22. | 2015 | Risk management in Islamic financial institutions  | University of the<br>Punjab, Pakistan                                     | 0.150 | Principal<br>Investigator | Completed       |
| 23. | 2013 | Contextual determinants of job satisfaction of<br>Punjab University faculty members  | University of the<br>Punjab, Pakistan                                     | 0.125 | Principal<br>Investigator | Completed       |
| 24. | 2010 | Quality of life of breast cancer survivors in Punjab,<br>Pakistan  | Higher Education<br>Commission,<br>Pakistan                               | 4.50  | Report<br>Writing         | Completed       |

### **RESEARCH SUPERVISION**

#### **☆** Ph.D.

| Sr. | Scholar Name       | Session | Thesis Title   | Status     |
|-----|--------------------|---------|--|------------|
| 1.  | Ms. Amna Riaz      | 2022-27 | Development of the Quantum Statistical Methods and their Applications  | In-process |
| 2.  | Ms. Rafia Butt     | 2021-26 | Development of Quantum Algorithms for Efficient Classification:<br>Applications to Medical Data                                      | In-process |
| 3.  | Ms. Ayesha Pari    | 2024-28 | Quantum Computing and Applications to Distribution Theory  | In-process |
| 4.  | Ms. Sehar Saleem   | 2013-18 | Optimal Score Functions for Robust Estimation of Multilevel Models in the Presence of Outliers                                       | Completed  |
| 5.  | Ms. Madiha Liaqat  | 2017-22 | Development and Application of Methodology for the Joint Analysis of<br>Complex Survival-Longitudinal Data Incorporates Missingness. | Completed  |
| 6.  | Ms. Faiza Dawood   | 2016-21 | Combined Shewhart- homogenously weighted moving average control charts   | Completed  |
| 7.  | Mr. Fakhar Mustafa | 2018-23 | On Designing the Control Charts for Monitoring the Count Data  | Completed  |

# <u>\*\*\*\*</u>\*M.Phil.

| Sr. | Scholar Name  | Session | Thesis Title  |
|-----|---------------|---------|---|
| 1.  | Eman Wasim    | 2024-26 | Financial Modeling of Pakistan Stock Exchange using Data Mining and Quantum Neural Networks   |
| 2.  | Farwa Wagas   | 2024-26 | Image Classification using Data Mining and Quantum Computing  |
| 3.  | Shahzaib      | 2023-25 | Modeling the Child Well-being using Data Mining Techniques: Evidence from the MICS<br>Surveys Pakistan  |
| 4.  | Fizza Razaq   | 2023-25 | Predictive Modeling of Investment Patterns in Pakistan Using Data Mining and<br>Advanced Machine Learning Algorithms                                    |
| 5.  | Asad Ali Khan | 2022-24 | Psychological Burden of COVID-19 Patients: Evidence from Meta-analysis  |
| 6.  | Uswa Sehar    | 2021-23 | Enhancing Road Accident Prediction: A Comparative Analysis of Quantum Neural<br>Network and Traditional Machine Learning Approaches                     |
| 7.  | Sumbal Amjad  | 2021-23 | Predicting of Under-five Mortality in Pakistan using Supervised Machine Learning<br>Models: Evidence from Pakistan Demographic and Health Surve 2017-18 |
| 8.  | Maham Rafique | 2021-23 | Structural Equation Models for the Estimation of Psychological Well-being of Covid-19<br>Caregivers in Pakistan   |
| 9.  | Iqra Altaf    | 2021-23 | A Comparative Analysis of Quantum Neural Network and Traditional machine learning<br>Approaches for the Prediction of Human Development Index (HDI)     |

|     | Sadia Pervaiz   | 2020-22 | Meta-Analysis for characteristics associated with Diabetes Mellitus in Pakistan: A  |
|-----|-----------------|---------|---|
| 10. | Khokhar         | 2020 22 | Comprehensive study   |
|     | Rabia Bibi      | 2020-22 | Meta-Analysis of Global Food Economics and food Security  |
| 12. | Nida Asif       | 2020-22 | Meta-Analysis of Factors Associated with Cardiovascular Disease in Pakistan: A<br>Comprehensive Review                                      |
| 13. | Arooj Naeem     | 2020-22 | Some Statistical Methods of Meta-Analysis under Indeterminacy   |
| 14. | Maham Aslam     | 2020-22 | A Note on Survival Analysis under Indeterminacy   |
| 15. | Tajala Fatima   | 2020-22 | Some Sampling Distributions under Indeterminacy: Properties and Applications  |
| 16. | Rabiya Fatima   | 2018-20 | A new Double Exponentially Weighted Moving Average Control Chart using Multiple Dependent State Repetitive Sampling.                        |
| 17. | Rafia Butt      | 2018-20 | Fixed Effect Meta-Analysis of Characteristics Associated with Respiratory CoronaVirus-2   |
| 18. | Hira Naeem Khan | 2018-20 | Double Progressive Mean Control Chart Under Multiple Dependent State Repetitive<br>Sampling   |
| 19. | Muhammad Ilyas  | 2018-20 | Variable Control Charts utilizing Ranked-Multiple Dependent State Repetitive<br>Sampling Scheme   |
| 20. | Aqsa Abbas      | 2017-19 | Moderating Variable Effects in Multilevel Models: A Simulation Based Study.   |
| 21. | Jaweria Shahid  | 2017-19 | A Systematic Review and Meta-Analysis of Genotypes of Hepatitis B Virus (HBV) in Pakistan.  |
| 22. | Munawar Iqbal   | 2017-19 | Modeling Non-linear Behavior of Independent Variables.  |
| 23. | Sidra Zain      | 2017-19 | Generalized Linear Mixed Models: An Application on Limited Overs International<br>Cricket Data.   |
| 24. | Saba Younus     | 2017-19 | Multilevel Growth Curve Models for Longitudinal Data: An Application on Human<br>Development Index Data.                                    |
| 25. | Humera Qasim    | 2016-18 | Performance Evaluation of DEWMA3 in Phase-II for Capturing Changes in Simple<br>Linear Profiles based on Run Rule Mechanism.                |
| 26. | Maira Nawazish  | 2016-18 | Multiple Imputation of Missing Data in Multilevel Models and its Comparison with other Techniques: A Simulation based Analysis.             |
| 27. | Muhammad Waqas  | 2016-18 | Transmuted Inverted Kumaraswamy Distribution: Properties and Applications.  |
| 28. | Anira Khalil    | 2016-18 | Air Pollutants and Risk of Cardiovascular, Lung Cancer and Respiratory Mortality in Asian Countries: A Systematic Review and Meta-Analysis. |
| 29. | Ayesha Dawood   | 2016-18 | Survival Analysis and Multilevel Survival Analysis of Breast Cancer Survivors in<br>Punjab, Pakistan.                                       |
| 30. | Kanwal Saleem   | 2015-17 | Meta-Analysis of Factors Associated with Diabetes in Pakistan and Across the Globe:<br>Random Effect Model Approach.                        |
| 31. | Maham Faheem    | 2015-17 | Meta-Analysis of Factors Associated with Disease Burden Estimation of Influenza:<br>Random Effect Model Approach.                           |
| 32. | Amna Aslam      | 2015-17 | Transmuted Exponentiated Dagum Distribution with Applications.  |
| 33. | Sidra Altaf     | 2015-17 | Power of Non-parametric Tests for Survival Analysis under Different Sample Sizes and<br>Censored Rates.                                     |
| 34. | Abdullah Bilal  | 2014-16 | Multilevel Growth Models for GDP Influencing Factors.   |
| 35. | Gofran          | 2014-16 | Associated Factors of Age at First Birth in Punjab, Pakistan: A Discrete-Time Event<br>History Analysis                                     |
| 36. | Hafiz Nawaz     |         | Government Debt and Budget Deficit Nexus in G8 and SAARC Countries: Evidence from   |
| 37. | Muhammad Arfan  | 2013-15 | Ordinal Logit and Multilevel Ordinal Logit Models: An Application on Wealth Index<br>MICS-Survey Data                                       |
|     | Tatima Archad   | 2013-15 | Two Sample Mean Testing in High Dimensional Data.   |
| 38. | Fatima Arshad   | 2015-15 |   |

### **\*\*\*\***BS/M.Sc.

Supervised 200+ research thesis and some of the titles are:

| Sr. | Scholar Name             | Session | Thesis Title  |
|-----|--------------------------|---------|---|
| 1.  | 1. Muhammad Asif 2023-25 |         | Decision Trees and the Classification of Student Satisfaction by the Punjab University                  |
| 2.  | Hifza                    | 2023-25 | Identification of Crime Patterns in Pakistan by using Data Mining Techniques                            |
| 3.  | Saira Nawaz              | 2021-25 | An Exploration of Knowledge, Attitude and Practices about Monkepox using Machine<br>Learning Techniques |
| 4.  | Ayesha Ishtiaq           | 2021-25 | An Exploration of Nutrition and Health Consciousness among Youth using Machine Learning Techniques      |

| 5.  | Muhammad<br>Abdullah Javaid | 2021-25 | Data Mining of Non-communicable Diseases Indicators in Pakistan and Associated<br>Countries   |
|-----|-----------------------------|---------|---|
| 6.  | Alishba Sheikh              | 2021-25 | A Statistical Study of Brand Positioning using Classical and Machine Learning Methods   |
| 7.  | Eman Waseem                 | 2020-24 | Patients' Preferences for Physicians' Attire: Fixed Effect Meta-Analysis  |
| 8.  | Farwa Waqas                 | 2020-24 | Patient's Preferences for Knee Replacement: A Meta-Analysis Approach  |
| 9.  | Ansharah Saeed              | 2021-23 | A Statistical Analysis of Prevalence of Depression, Anxiety and Stress among University<br>Students in Pakistan: A Meta-Analysis Approach |
| 10. | Nida Asif                   | 2020-22 | Meta-analysis of Factors Associated with Cardiovascular Disease in Pakistan: A<br>Comprehensive Review                                    |
| 11. | Muneeba Sheraz              | 2020-22 | Credibility and Trust of Communication B/W Government & Public Sector Media Centres for extreme events in Pakistan                        |

# **RESEARCH PUBLICATIONS**

| <b>S.</b> # | Year | Title of Paper   | Name of the<br>Journal  | IF/<br>HEC Cat.   |
|-------------|------|--|---|-------------------|
| 1.          | 2025 | An Artificial Neural Network Approach for Psychometric Assessment of<br>Stress, Anxiety, and Depression in Women   | Journal of Statistics   | Y                 |
| 2.          | 2025 | Estimating the Economic Burden of COVID-19 Survivors in Punjab,<br>Pakistan  | PLOSOne   | 2.9<br>(Accepted) |
| 3.          | 2025 | Neutrosophic Extension of the Negative Binomial Distribution: Properties and Applications to Interval-Valued Data  | Advances and<br>Applications in Statistics                        | 0.2               |
| 4.          | 2025 | Properties and Applications of Neutrosophic Burr XII Distribution  | International Journal of<br>Computational<br>Intelligence Systems | 2.5               |
| 5.          | 2025 | An Application of Neutrosophic Statistics: Extending Relative Risk and<br>Odds Ratios to Handle Uncertainty in Epidemiology and Biostatistics  | JP Journal of Biostatistics                                       | 0.1               |
| 6.          | 2025 | Impact of Short-Term Aromatherapy and COVID-19 Pandemic on<br>Stereotypic Behavior and Cortisol Concentration in Captive Big Cats  | Pakistan Journal of<br>Zoology                                    | 0.5               |
| 7.          | 2025 | Factors Affecting the Students' Academic Achievements: A Multilevel<br>Modeling Approach   | Journal of Statistics   | Y                 |
| 8.          | 2024 | Modeling of Quantum Cognitive Perceptual Associative Memory for<br>Conscious Agents: A Parametrized Circuit of Quantum Neural Networks   | IET Quantum<br>Communication                                      | 3.2               |
| 9.          | 2024 | Relationship Between Prostate-Specific Antigen, Alkaline Phosphatase<br>Levels, and Time-to-Tumor Shrinkage: Understanding the Progression of<br>Prostate Cancer in a Longitudinal Study | BMC Urology   | 1.7               |
| 10.         | 2024 | Solving Schrödinger Wave Equation for the Charmonium Spectrum Using<br>Artificial Neural Networks  | Advances in High Energy<br>Physics                                | 1.7               |
| 11.         | 2024 | A progressive mean control chart for dispersed count data considering tail behavior  | Quality Technology &<br>Quantitative Management                   | 2.8               |
| 12.         | 2024 | On Designing a New Control Chart Using the Generalized Conway–<br>Maxwell–Poisson Distribution to Monitor Count Data   | processes   | 3.5               |
| 13.         | 2024 | Neutrosophic Discrete Geometric Distribution   | Advances and<br>Applications in Statistics                        | 0.2               |
| 14.         | 2023 | Determinants of rural household poverty in Pakistan with multilevel approach   | Cogent Economics &<br>Finance                                     | ESCI/X            |
| 15.         | 2023 | Performance Evaluation of DEWMA3 in Phase-II for Capturing Changes<br>in Simple Linear Profiles Based on Run Rule Mechanism  | Scientific Reports  | 4.997             |
| 16.         | 2023 | Enhanced Performance of Mixed HWMA-CUSUM charts using Auxiliary<br>Information   | PLOSOne   | 3.752             |
| 17.         | 2023 | Smoking and the Prevalence of Covid-19: A Systematic Review and Meta-<br>analysis  | AIMS Public Health  | 3.3               |
| 18.         | 2023 | A Modified Group Chain Sampling Plan for lifetime following<br>Kumaraswamy Generalized Power Weibull Distribution with Minimum<br>Angle Approach   | Scientia Iranica  | 1.416             |
|             | 1    | 1  | 1   | L                 |

| 19. | 2023 | A new exponentially weighted moving average control chart to monitor<br>count data with applications in healthcare and manufacturing | Journal of Statistical<br>Computation and<br>Simulation       | 1.2    |
|-----|------|--|---|--------|
| 20. | 2023 | Uncertainty-based sampling plans for various statistical distributions   | AIMS Mathematics  | 2.739  |
| 21. | 2023 | Development of a new modified Hogg type adaptive scheme for multilevel models with diverse error distributions.                      | Communication in<br>Statistics- Theory and<br>Methods         | 0.863  |
| 22. | 2023 | Marshall Olkin Exponentiated Dagum Distribution: Properties and Applications   | Journal of Statistical<br>Theory and Applications             | ESCI/Y |
| 23. | 2022 | Generalized multiple dependent state sampling plans for coefficient of variation   | Communications in<br>Statistics - Theory and<br>Methods       | 0.863  |
| 24. | 2022 | Product Acceptance Determination Based on EWMA Yield Index Using<br>Repetitive and MDS Sampling Schemes                              | Scientia Iranica  | 1.435  |
| 25. | 2022 | A New Nonparametric Composite Exponentially Weighted Moving<br>Average Sign Control Chart  | Scientia Iranica  | 1.435  |
| 26. | 2022 | Rehabilitation of Acute and Chronic Ankle Sprain for Male Cricketers<br>through Mixedbag (Hydrotherapy and Land-Based) Exercises     | Journal of Bioresource<br>Management                          | Ŷ      |
| 27. | 2022 | Validity of Ricardian equivalence hypothesis: A case study based on the cluster of developed and developing countries                | Journal of Economics  | -      |
| 28. | 2021 | Neutrosophic entropy measures for the Weibull distribution: theory and applications  | Complex & Intelligent<br>Systems                              | 4.927  |
| 29. | 2021 | Analysis of COVID-19 Data using Neutrosophic Kruskal Wallis H Test   | BMC Medical Research<br>Methodology                           | 4.615  |
| 30. | 2021 | A study on various pollutants in water and their effect on blood of the consumers.   | Applied Water Science   | 3.874  |
| 31. | 2021 | A new neutrosophic sign test: An application to COVID-19 data  | Plos One  | 3.420  |
| 32. | 2021 | Development of New Robust Optimal Score Function for the Weibull<br>Distributed Error Term in Multilevel Models                      | Mathematical Problems in<br>Engineering                       | 1.305  |
| 33. | 2021 | Computing Expectiles using k-Nearest Neighbours Approach   | Symmetry  | 2.713  |
| 34. | 2021 | Monitoring Mortality Caused by Covid-19 using Gamma Distributed<br>Variables Based on Generalized Multiple Dependent State Sampling  | Computational and<br>Mathematical Methods in<br>Medicine      | 2.238  |
| 35. | 2021 | A New Neutrosophic Negative Binomial Distribution: Properties and Applications   | Journal of Mathematics  | 0.971  |
| 36. | 2021 | On the Discrete Weibull Marshall–Olkin Family of Distributions:<br>Properties, Characterizations, and Applications.                  | axioms  | 2.6    |
| 37. | 2021 | Efficient Rank-Based Analysis of Multilevel Models for the Family of<br>Skew-t Errors  | Pakistan Journal of<br>Statistics and Operations<br>Research  | Y      |
| 38. | 2021 | Is Trade Openness the reason of High Energy Demand in China  | International Journal of<br>Energy Economics                  | x      |
| 39. | 2021 | Neutrosophic Entropy Measures for the Normal Distribution: Theory and Applications   | Pakistan Journal of<br>Statistics                             | Ŷ      |
| 40. | 2021 | Knowledge Attitude and Practices in Community Health Programs by the<br>Pharmacists in Lahore, Pakistan                              | Journal of Pharmaceutical<br>Research International           | Ŷ      |
| 41. | 2021 | One Factor SEM and Multilevel SEM Model for Patient Satisfaction Data  | Journal of Pharmaceutical<br>Research International           | Y      |
| 12. | 2021 | Risk Factors and Quality of Life of Lung Cancer Survivors in Lahore,<br>Pakistan   | Journal of Pharmaceutical<br>Research International           | Y      |
| 43. | 2021 | Functional Limitations of Hyper and Hypothyroid Patients in INMOL<br>Hospital Lahore, Pakistan                                       | Journal of Pharmaceutical<br>Research International           | Ŷ      |
| 44. | 2021 | Hospital Characteristics and the Patient Satisfaction in Lahore, Pakistan  | Journal of Pharmaceutical<br>Research International           | Y      |
| 45. | 2021 | Moving Average EWMA Chart for the Weibull Distribution   | Communication in<br>Statistics- Simulation and<br>Computation | 0.651  |
| 46. | 2021 | Transmuted Inverted Kumaraswamy Distribution: Theory and Applications  | Punjab University Journal<br>of Mathematics                   | Y      |

| 47. | 2021 | The Classification of Medicinal Plant Leaves Based on Multispectral and<br>Texture Feature Using Machine Learning Approach                                      | Agronomy   | 2.603 |
|-----|------|---|--|-------|
| 48. | 2021 | Monitoring circuit boards products in the presence of indeterminacy   | Measurement  | 3.364 |
| 49. | 2021 | Generalized Multiple Dependent State Sampling Plans for Coefficient of Variation  | Communication in<br>Statistics- Theory and<br>Methods        | 0.612 |
| 50. | 2021 | Efficient Rank Based Analysis of Multilevel Models for the Family of Skew t-distribution  | Pakistan Journal of<br>Statistics and Operations<br>Research | Ŷ     |
| 51. | 2021 | The Extended Burr-R Class: Properties, Applications and Modified Test for Censored Data   | AIMS Mathematics   | 0.882 |
| 52. | 2021 | A mixed control chart for monitoring failure times under accelerated hybrid censoring.  | Journal of Applied<br>Statistics                             | 0.767 |
| 53. | 2021 | Analysis of SNP rs1800796 Association with Risk of Rheumatoid Arthritis in Pakistani Population: A Case Control Study.  | Pakistan J. Zool   | 0.790 |
| 54. | 2021 | Relations for Moments of Generalized Order Statistics for Transmuted<br>Exponential Distribution and Characterization   | Pakistan Journal of<br>Statistics and Operations<br>Research | Y     |
| 55. | 2021 | Neutrosophic Beta Distribution with Properties and Applications   | Neutrosophic Sets and<br>Systems                             | Y     |
| 56. | 2021 | Prevalence of Obesity and Trends of Body Mass Index in Azad Jammu<br>and Kashmir  | Journal of Pharmaceutical<br>Research International          | Y     |
| 57. | 2020 | A bottleneck degree-based migrating birds optimization algorithm for the PCB production scheduling  | IEEE-Access  | 3.745 |
| 58. | 2020 | Systematic surveillance and meta-analysis on the prevalence of metallo-β-<br>lactamase producers among carbapenem resistant clinical isolates in<br>Pakistan    | Journal of Global<br>Antimicrobial Resistance                | 2.706 |
| 59. | 2020 | A Double Homogeneously Weighted Moving Average Control Chart for<br>Monitoring of the Process Mean.   | Qual Reliab Engng Int  | 1.718 |
| 50. | 2020 | An Improved and Robust Class of Variance Estimator  | Scientia Iranica   | 1.017 |
| 51. | 2020 | A New Nonparametric Composite Exponentially Weighted Moving<br>Average Sign Control Chart   | Scientia Iranica   | 1.017 |
| 62. | 2020 | A new nonparametric double exponentially weighted moving average control chart  | Qual Reliab Engng Int  | 1.718 |
| 63. | 2020 | New Diagnosis Tests under the Neutrosophic Statistics-An Application to Diabetic Patients   | BioMed Research<br>International                             | 2.276 |
| 64. | 2020 | COVID-19 in South Asia: Real-time Monitoring of Reproduction and Case<br>Fatality Rate  | General Medicine: Open<br>Access                             | -     |
| 65. | 2019 | The interrelationships of child under-nutrition, ecological and maternal factors: a case study of Pakistan by using composite index of anthropometric failure   | Applied Ecology and<br>Environmental Research                | 0.712 |
| 66. | 2019 | Gender Disparities in Human Development Index and associated factors<br>in Low, Medium, High and Very High Human Developed Countries                            | Pakistan Economic and<br>Social Review                       | x     |
| 67. | 2018 | Prevalence of extended-spectrum-β-lactamase – producing<br>Enterobacteriaceae: first systematic meta-analysis report from Pakistan.                             | Antimicrobial Resistance<br>& Infection Control              | 4.887 |
| 68. | 2018 | Comparison of European system for cardiac operative risk evaluation<br>(EuroSCORE) II with the postoperative outcomes in patients undergoing<br>cardiac surgery | Journal of Fatima Jinnah<br>Medical University               | Y     |
| 69. | 2017 | Application of Panel Co-integration Approach to Verify Ricardian<br>Equivalence Hypothesis in G8 and SAARC Countries  | Journal of Statistics  | Ŷ     |
| 70. | 2017 | Multilevel Growth Modeling Using R: A Case of GDP Influencing Factors   | Journal of Statistics  | Y     |
| 71. | 2017 | Optimal Breastfeeding Practices: Mothers' Knowledge and Practices   | The Professional Medical<br>Journal                          | x     |
| 72. | 2017 | Contraceptive Method Choices among Women in Punjab, Pakistan.   | Medical Channel  | Y     |
| 73. | 2017 | Health Outcomes in Low, Medium, High and Very High Human<br>Developed Countries: A Cross Comparison with the Pakistan   | Pakistan Journal of<br>Medical Research                      | Y     |
| 74. | 2017 | Awareness about Swine Flu/H1N1 Influenza Virus among Educated<br>Community of Lahore: - City of Pakistan  | Journal of Pakistan<br>Medical Association                   | 0.573 |
| 75. | 2017 | Correlates of Human Development Index in Low, Medium, High and<br>Very High Human Developed Nations   | Pakistan Economic and<br>Social Review                       | x     |
| 76. | 2017 | Comparison of fractional splines with polynomial splines; An<br>Application on under-five year's child mortality data in Pakistan (1960-<br>2012)               | Pakistan Journal of<br>Statistics & Operation<br>Research    | Ŷ     |

| 77.          | 2017 | Epidemiological Analysis of Infant Mortality in Rural Punjab of Pakistan  | Medical Forum Monthly      | Ŷ             |
|--------------|------|---|----------------------------|---------------|
| //.          | 2017 | 1 0 5 5 5 7   | ,<br>,                     | -             |
|              |      | Ordinal Logit and Multilevel Ordinal Logit Models: An Application on      | Pakistan Journal of        |               |
| 78.          | 2017 | Wealth Index MICS-Survey Data   | Statistics & Operation     | Y             |
|              |      |   | Research                   |               |
|              |      | Some Improved Modified Ratio Estimators Based on Decile Mean of an        | Pakistan Journal of        |               |
| 79.          | 2016 | Auxiliary Variable  | Statistics & Operation     | Y             |
|              |      |   | Research                   |               |
| 80. 2010     |      | Improved Ratio Estimators for the Population Mean Using Non-              | Pakistan Journal of        |               |
|              | 2016 | Conventional Measures of Dispersion                                       | Statistics & Operation     | Y             |
|              |      | Conventional measures of Dispersion                                       | Research                   |               |
|              |      |   | Pakistan Journal of        |               |
| 81. 2        | 2016 | Correlates of Injection Initiation among Drug Users in Punjab, Pakistan   | Medical and Health         | Y             |
|              |      |   | Sciences                   |               |
|              |      |   | Pakistan Journal of        |               |
| 32.          | 2015 | Power Comparison of Various Normality Tests                               | Statistics & Operation     | Y             |
|              |      |   | Research                   |               |
|              | 2015 |   | Caspian Journal of         |               |
| 33.          |      | Random Intercept and Random Slope 4-Levels Multilevel Models              | Applied Scientific         | x             |
|              |      |   | Research                   |               |
|              |      |   |                            |               |
| 84.          | 2014 | Structural Modeling of Data on Quality of Life of Breast Cancer Survivors | DORIANA                    | X             |
| 85.          | 2014 | Impact of Macroeconomic Factors on the Stock Index: A Case Study of       | Science International      | x             |
| o <b>5</b> . | 2014 | Pakistan  | Science international      | л             |
|              |      |   | Pakistan Journal of        |               |
| 86.          | 2013 | Generalization of Random Intercept Multilevel Models                      | Statistics & Operation     | Y             |
|              |      | -   | Research                   |               |
|              |      |   | European Journal of        | a <b>-</b> ac |
| 87.          | 2013 | Random Intercept and Random Slope k-levels Multilevel Models              | Scientific Research        | 0.792         |
|              |      |   | Caspian Journal of         |               |
| 88.          | 2013 | Random Intercept and Random Slope 3-Levels Multilevel Models              | Applied Scientific         | x             |
|              |      |   | Research                   |               |
|              |      |   | Pakistan Journal of        |               |
| 89.          | 2012 | Random Intercept and Random Slope Multilevel Models                       | Statistics & Operation     | Y             |
|              |      |   | Research                   | -             |
| 00           | 2012 | Pandom Intercent and Pandom Clone Multimeter Multimet M. 1                |                            | v             |
| 90.          | 2012 | Random Intercept and Random Slope Multivariate Multilevel Models          | Science Series Data Report | X             |
| 91.          | 2008 | Anxiety and Self-Esteem among Smokers and Non-smokers                     | Pakistan Journal of        | Ŷ             |
|              | 2000 | marcey and ben-Esteen among binoxets and rom-smokets                      | Psychology                 | 1             |

# MANUSCRIPTS UNDER REVIEW

| <b>S.</b> # | Title of Paper  | Name of the<br>Journal   | IF/<br>HEC Cat. |
|-------------|---|--|-----------------|
| 1.          | Exploring the Quantum Frontier: Road Accident Prediction Using Quantum Neural<br>Networks and Traditional Machine Learning            | Journal of King Saud<br>University - Computer<br>and Information<br>Sciences | 7.40            |
| 2.          | Quantum Neural Networks and Conventional Machine Learning for Human<br>Development Index Prediction                                   | Applied Soft Computing<br>Journal  | 8.71            |
| 3.          | Quantum Computing in Finance: Current Status and Future Prospects – A<br>Comprehensive Review   | The Journal of Finance<br>and Data Science                                   | 6.5             |
| 4.          | Identification of Crime Patterns in Pakistan by using Data Mining Techniques  | Statistical Analysis and<br>Data Mining                                      | 2.1             |
| 5.          | Grover's Algorithm for Astrophysical Data Analysis: A Quantum Circuit Based<br>Approach   | SN Computer Science  | 3.78            |
| 6.          | Comparative Study of Long Short-Term Memory (LSTM) and Quantum Long<br>Short-Term Memory (QLSTM): Prediction of Stock Market Movement | Soft Computing   | 3.1             |
| 7.          | Comparative Analysis of Quantum Error Correction Codes: A Quantum Circuit<br>Based Approach   | Quantum Information<br>Processing  | 2.2             |

| 8.  | A Quantum Cognition Based Parallel Architecture of Body Sensor Network for<br>Man- Machine Communication in Cancer Management                                      | Pattern Analysis and<br>Applications   | 3.7   |
|-----|--|--|-------|
| 9.  | aantum Computing in Healthcare: Current Status and Future Prospects – A PLOSOne  |  | 2.9   |
| 10. | Comorbidity Chronicles: Meta-Analysis on Prominent Risk Factors in COVID-19  | AIMS-Public Health   | 3.1   |
| 11. | Applications of Quantum Computing in Agriculture: Systematic Review and Meta-<br>Analysis Review   |  | 10.7  |
| 12. | Decision Trees and the Classification of Student Satisfaction by the Punjab<br>University Higher Education   |  | 2.3   |
| 13. | n Exploration of Knowledge, Attitude and Practices about Monkepox using<br>fachine Learning Techniques   |  | 2.9   |
| 14. | An Exploration of Nutrition and Health Consciousness among Youth in Pakistan<br>Ising Machine Learning Techniques  |  | 2.6   |
| 15. | Data Mining of Non-communicable Diseases Indicators in Pakistan and Associated<br>Countries  |  | 3.8   |
| 16. | mage Classification using Data Mining and Quantum Computing: A systematic<br>Review  |  | 3.4   |
| 17. | Modeling the Child Well-being using Data Mining Techniques: Evidence from the MICS Surveys Pakistan  | Child Indicators<br>Research   | 2.0   |
| 18. | Predictive Modeling of Investment Patterns in Pakistan Using Data Mining and Advanced Machine Learning Algorithms  | Computational<br>Economics   | 1.9   |
| 19. | Probing the Accounts of the Reminiscence Bump through Multilevel Modelling   | Memory & Cognition   | 2.502 |
| 20. | Meta-analysis of Factors Associated with Disease Burden Estimation of Influenza:<br>Random Effect Model Approach   | Influenza and other<br>Respiratory Viruses   | 2.954 |
| 21. | Meta-analysis of Risk Factors Associated with Diabetes in Pakistan: Random Effect<br>Model Approach.   | Diabetes   | 7.273 |
| 22. | Machine Vision Approach for The Brain Tumor Classification Using Fused<br>Features   | Artificial Intelligence<br>Review  | 5.942 |
| 23. | A Machine Learning Approach for Classification of Liver Tumor Using Magnetic<br>Resonance Images   | Scientific Reports   | 3.998 |
| 24. | Relative Risk and Odds Ratios under Uncertainty: Applications to Diabetes Data   | European Journal of<br>Clinical Investigation  | 3.086 |
| 25. | Double Progressive Mean Control Chart Under Multiple Dependent State<br>Repetitive Sampling Scheme Using Symmetric Values  | Iranian Journal of<br>Science and Technology,<br>Transaction A, Science                      | 0.875 |
| 26. | Multilevel Rolling Horizon Planning and Scheduling Integrated with Material<br>Constraints using Drum Buffer Rope Approach: A Heuristic for Smart<br>Manufacturing | CIRP Journal of<br>Manufacturing Science<br>and Technology                                   | 2.991 |
| 27. | A Co-Relational Study of Teachers' Conceptions of Assessment and Students'<br>Academic Achievement   | Journal of Educational<br>Research   | W     |
| 28. | Performance of the New Modified Random Forest for the Classification of Binary<br>Datasets with Multiple Kernel Learning   | Pakistan Journal of<br>Statistics and Operation<br>Research                                  | Ŷ     |
| 29. | A Group Chain Acceptance Sampling Plans for Lifetimes Following Beta Burr<br>Type-X Distribution with Minimum Angle Approach                                       | Industrial Engineering &<br>Management Systems   | Y     |
| 30. | Transmuted Exponentiated Dagum Distribution: Properties and Applications   | Boletín de la Sociedad<br>Matemática Mexicana  | -     |
| 31. | Modified Double EWMA Chart Using Multiple Dependent State Repetitive Sampling  | Heliyon  | 0.432 |
| 32. | Comparison of score selection schemes for optimal rank-based score functions under multilevel models   | Statistical Methods &<br>Applications  | 0.614 |
| 33. | Sampling Plan Based on the Coefficient of Variation for Resubmitted lots   | Proceedings of the<br>National Academy of<br>Sciences, India Section<br>A: Physical Sciences | 0.921 |

| 34. | Variables Control Chart Using Lifetime-Performance Index Under Weibull<br>Distributions with Censoring                                       | Scientia Iranica | 1.017 |
|-----|--|------------------|-------|
| 35. | Multiple Dependent Repetitive Group Sampling Plan using Marshall-Olkin<br>Logistic-Exponential Distribution Affirming to Percentile Lifetime | Stat             | 0.766 |

# PUBLICATIONS IN CONFERENCE PROCEEDINGS

| <b>S.</b> # | Year | Title  | Name of Publisher & Address   |
|-------------|------|--|---|
| 1           | 2010 | An Assessment of Quality of Life Among Breast Cancer Survivors in<br>Punjab Using Ordinal Regression   | Proceedings of Journal of American<br>Statistical Association (JASA), USA               |
| 2           | 2009 | Leadership Behavior: A Comparative Study of Multiple Regression and the Multilevel Regression  | Proceedings of Journal of American<br>Statistical Association (JASA), USA               |
| 3           | 2008 | Risk Factors Associated with injection initiation among drug users:<br>Comparing Hierarchical Modeling with Traditional Logistic Regression                  | Proceedings of Journal of American<br>Statistical Association (JASA), USA               |
| 4           | 2006 | Multivariate Statistical Analysis in Modeling the Job Satisfaction Data  | College of Statistical and Actuarial<br>Sciences University of the Punjab,<br>Pakistan  |
| 5           | 2006 | Transformation of Random Variables: A Comparison of Exterior Product<br>Method with the usual Determinant Method for Computing Jacobian of<br>Transformation | College of Statistical and Actuarial<br>Sciences University of the Punjab,<br>Pakistan. |

# **BOOKS AND CHAPTERS**

| <b>S.</b> # | Year    | Title  | Book/Cha<br>pter      | Publisher                     | Status           |
|-------------|---------|--|-----------------------|-------------------------------|------------------|
| 1.          | 2025    | Quantitative Reasoning II  | Text Book             | ILMI, Lahore                  | Published        |
| 2.          | 2024    | Quantitative Reasoning I   | Text Book             | ILMI, Lahore                  | Published        |
| 3.          | 2023    | Neutrosophic statistics and the medical data: a systematic review  | Chapter<br>19         | Springer                      | Published        |
| 4.          | 2021-22 | Process Capability Indices under Advanced Sampling Plans   | Book                  | Springer                      | Under<br>Process |
| 5.          | 2022    | Neutrosophic Statistics and the Medical Data: A Systematic Review  | Chapter               | Springer                      | Published        |
| 6.          | 2021    | Neutrosophic Normal Probability Distribution—A Spine of<br>Parametric Neutrosophic Statistical Tests: Properties and<br>Applications | Chapter               | Springer                      | Published        |
| 7.          | 2021    | Neutrosophic Statistics for Grouped Data: Theory and Applications  | Chapter               | Springer                      | Published        |
| 8.          | 2020    | Product Acceptance Determination Using Similarity Measure<br>Index under Neutrosophic Statistics                                     | Chapter               | NOVA                          | Published        |
| 9.          | 2020    | "Neutrosophic Descriptive Statistics" for book<br>"Quadruple Neutrosophic Theories and Applications"                                 | Chapter               | NOVA                          | Published        |
| 10.         | 2016    | Practical Notebook Statistics (B.A & BSc-Part-II)  | Practical<br>Notebook | ILMI Kitab Khana,<br>Pakistan | Under<br>Review  |
| 11.         | 2016    | Practical Notebook Statistics (B.A & BSc-Part-1)   | Practical<br>Notebook | ILMI Kitab Khana,<br>Pakistan | Published        |
| 12.         | 2015    | Practical Notebook Statistics (Class-11)   | Practical<br>Notebook | ILMI Kitab Khana,<br>Pakistan | Published        |
| 13.         | 2015    | Practical Notebook Statistics (Class-12)   | Practical<br>Notebook | ILMI Kitab Khana,<br>Pakistan | Published        |

### **COMPUTING SKILLS**

- ◎ Proficient in Statistical Software (SPSS, AMOS, Smart PLS, LISREL, STATA & MLwin).
- Proficient in Data Mining Software (SPSS Modeler, Orange Data Mining, KNIME, Rattle).
- Proficient in Microsoft Office (EXCEL, WORD & PowerPoint).
- ◎ Strong programming Skills (SPSS, FORTRAN, SAS, Python & R).
- ◎ Hands-on practice on C Language.

# **EDUCATION**

| University of the Punjab, Lahore – Pakistan                                      | 2013 |
|--|------|
| Ph.D. in Statistics: Generalization of Multilevel Models and their Applications. |      |
| University of the Punjab, Lahore – Pakistan                                      | 2004 |
| M.Sc. in Statistics: Multivariate Analysis, FORTRAN 77, C++, and Econometrics.   |      |
| University of the Punjab, Lahore – Pakistan                                      | 2001 |
| B.Sc.: Statistics, Mathematics, and Economics.                                   |      |
| Board of Intermediate and Secondary Education, Lahore – Pakistan                 | 1999 |
| Higher Secondary Certificate (FA): Statistics, Mathematics, and Economics.       |      |
| Board of Intermediate and Secondary Education, Lahore – Pakistan                 | 1997 |
| Secondary Certificate (Matriculation): Physics, Chemistry, and Biology.          |      |

# **REFERENCES**

The references will be furnished when required.