Faheem Jan

PhD, Lecturer in Department of Mathematics and Statistics

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Research Profile

A dedicated and accomplished Statistics scholar with a proven track record of high-impact research in Functional Data Analysis, Bayesian Statistics and Artificial Intelligence. Committed to excellence in teaching and curriculum development at both undergraduate and postgraduate levels. Expertise in Functional Time Series and Machine Learning.

Education

PhD in Statistics *Quaid-i-Azam University, Islamabad, Pakistan* 2018 – 2023
Thesis: *"Functional Modeling and Forecasting of Complex Time Series Data"*
Supervisor: Dr. Ismail Shah

MPhil in Statistics *Riphah International University, Islamabad, Pakistan* 2013 – 2016
Thesis: *"Ranking of Cricket Teams using Paired Comparison Models under Bayesian Framework"*
Supervisor: Prof. Dr. Muhammad Aslam

MSc in Statistics *University of Peshawar, Peshawar, Pakistan* 2003 – 2005

BSc in Physical Science *University of Peshawar, Peshawar, Pakistan* 2001 – 2003

FSc in Pre-Engineering *BISE Peshawar, Pakistan* 1999 – 2001

Secondary School Certificate in Science *BISE Peshawar, Pakistan* 1998

Academic Appointments

Lecturer in Statistics *Bacha Khan University, Department of Mathematics and Statistics, Charsadda, Pakistan* 2010 – Present

- Conduct original research leading to publications in high-impact journals.
- Develop and deliver modules including Functional Autoregressive models.
- Serve as Controller of Examination in departmental examination committee (2023–2025).
- Serve as Staff Proctor in University Disciplinary Committee (2010–2016).

Subject Specialist in Statistics *Higher Education Commission, Khyber Pakhtunkhwa, Pakistan* 2008 – 2010

Lecturer in Statistics *Islamia College Peshawar, Peshawar, Pakistan* 2008 – 2010

- Responsibilities included Student Disciplinary Committee.
- Member of Departmental Student Affairs Committee.

Research Interests

- Bayesian Statistics
- Time Series Analysis
- Functional Data Analysis
- Functional Time Series
- Artificial Intelligence

Publications

Peer-Reviewed Journal Articles

1. **Short-Term Electricity Prices Forecasting Using Functional Time Series Analysis, Energies(2022)**
2. **Functional Data Approach for Short-Term Electricity Demand Forecasting,Mathematical Problems in Engineering(2022)**
3. **Forecasting Day-Ahead Electric Power Prices with Functional Data Analysis,Frontiers in Energy Research (2025)**
4. **Performance of Classification Algorithms Under Class Imbalance: Simulation and Real-World Evidence, IEEE Access (2025)**
5. **Advancing Economic Forecasting with Hybrid Time Series and Functional Models: Evidence from Electricity Demand Data, IEEE Access (2025)**
6. **Bridging Data and Dynamics: Neural ODEs for Epidemic Modeling, The Journal of Supercomputing (2025)**
7. **Robust Short-Term Electricity Demand Forecasting Using Functional Time Series and Anomaly Adjustment, Under Review**
8. **Modelling and Forecasting of Air Temperature Data Using a Functional Autoregressive Model, Under Review**
9. **Modeling and Forecasting of Traffic Flow using Functional Data Analysis, Under Review**
10. **Functional Data Analysis for Air Temperature Forecasting: A Comparative Study of Statistical, Machine Learning, and Functional Time Series Models,Under Review**
11. **A Robust Big Data Approach to Electricity Price Forecasting Using Anomaly Detection and Ensemble Model, Under Review**
12. **Functional Time Series Modeling for Big Data Electricity Price Forecasting, Under Review**
13. **Advancing Electricity Price Forecasting with Big Data: A Functional Time Series Approach Integrating Economic Exogenous Variables, Under Review**

Technical Skills

- **Statistical Methodologies:** Functional Data Analysis, Time Series Forecasting, Bayesian Inference, Machine Learning

- **Software:** R, STATA, SPSS, SAS, Excel, LaTeX
- **Languages:** Urdu (Native), Pashto (Native), English (Professional)

Interests

- Book Reading
- Cricket
- Playing with Data