



# Dr. Arif Muhammad

## Curriculum Vitae

### BREIF BIO

Arif Muhammad holds a doctorate degree in Statistics with a core specialization in Data Envelopment Analysis and Operation Research from Pondicherry Central University-India. He has developed various mathematical models to evaluate different types of efficiency measurements of various networking DEA models. In addition, he has employed different models on various real-life problems to reflect their technical effectiveness. The thesis is available on Shodhganga-Inflibnet and the university library with the title *Efficiency Evaluation through Radial and non-radial measures in Networking Processes*. His papers have appeared in very reputable journals. He has presented his work at many international conferences held within India as well as outside India. He got a grant from DST-SERB for Presenting a paper and attending a workshop at an international conference in Prague, Czech Republic. Further, he has visited several other European countries to meet people with the same research area to explore more knowledge about the research area. He was the recipient of a national fellowship provided by UGC for pursuing his doctoral studies. He is having almost **5 years of teaching experience** in different colleges of J&K affiliated with Kashmir University, Sharda University and NCDC Delhi. He has also qualified UGC NET in the subject of Population Studies. At present, he is working as an **Assistant Professor** (contractual) in Government degree college kulgam-j

k.

### Carrier Objective

Looking for an opportunity to work on an important research work/teaching in an institution that provides professional development, interesting experiences and personal growth.

To get associated with a progressive organization that gives me scope to apply my knowledge and analytical skills; Contribute effectively to the success of the organization and also further improve my personal, professional, and technical skills. As a self-motivated and responsible person, I believe in one sentence, "The riskiest thing is to take no risks".

– Nildora Shopian, Kashmir, J&K, INDIA - 192303

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1/10

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## Teaching & Research Experience

- Sep 2024 to till date **Assistant professor (Contractual)**, *Government Degree college kulgam, Jammu and Kashmir*
- August 2023 to March 2024 **Statistician cum assistant professor**, *IDSP, National Centre for Disease Control NCDC , New Delhi, India*
- January 2023 to July 2023 **Assistant Professor**, *Department of Mathematics, Sharda School of Basic Science & Research , Sharda University, Greater Noida-201310, India*
- July 2018 to July-2019 **Assistant Professor**, *Amar singh college, Cluster University Srinagar , Jammu and Kashmir, Srinagar- 190008, India*
- March-2020 to Dec 2020 **Assistant Professor**, *Amar singh college, Cluster University Srinagar , Jammu and Kashmir, Srinagar- 190008, India*
- July 2021 to Dec 2021 **Assistant Professor**, *Govt Degree college Shopian , Jammu and Kashmir, Shopian- 192303, India*
- April 2022 to present **Assistant Professor**, *Govt Degree college Shopian , Jammu and Kashmir, Shopian- 192303, India*

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## Education in (Regular/Full-Time)

- 9<sup>th</sup> Sep, 2014 to 30<sup>th</sup> April, 2018 **Ph.D in Statistics**, *Department of Statistics, Ramanujan School of Mathematical Sciences, Pondicherry Central University, Pondicherry - 605014, India (Completed 30<sup>th</sup> April, 2018)*
- 2012 - 2014 **NET (population studies)** , *UGC, Passed - April 2017*
- 2012 - 2014 **Masters in Statistics** , *University of Kashmir, Srinagar - 190006, J&K, India, Percentage 77%, Passed - 3rd June 2014*
- 2008 - 2011 **UG**, *University of Kashmir, Srinagar - 190006, J&K, India Passed - 17<sup>th</sup> August 2011*
- Annual 2007 **12th**, *Jammu and Kashmir Board of School Education, Srinagar - 190006, J&K, India Passed - 16<sup>th</sup> October 2008*

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## Diploma

- 2015 - 2016 **Post Graduate Diploma in Computer Applications**, *Pondicherry Central University, Pondicherry - 605014, India, Percentage 70%, Passed - May 2016*

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## Certificate Course

- 2014 - 2015 **Certificate Course in ARABIC**, *Pondicherry Central University, Pondicherry - 605014, India, Distinction with first position, Passed - May 2015*
- 2008 **Certificate Course on Computer Concepts**, *ASCENT IMT , Ministry of Communication and Information Technology, Government of India, Pulwama, Srinagar, Passed - 24<sup>th</sup> Nov 2009*

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## Technical Skill

Programming Language	C/C++, SAS
Statistical Software	SPSS, Excel, R-Package, STATA, JASP, STATA, Python
Operations Research Software	DEA Excel Solver, DEA-Frontier, DEAP 2.1, Frontier 4.1 , MAXDEA, TORA, COIN/OR and lp_solve.
Database	Bloomberg, CMIE, RBI and Kaggle
Development Tools	Lingo, VBI, Microsoft Visual Studio 2010 and 2012, Matlab

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## Areas of Expertise

Concepts	Descriptive Statistics, Inferential Statistics, Biostatistics, Probability theory and Probability Distribution, Sampling Techniques, Design of Experiment, Operation Research, Data Envelopment Analysis, Stochastic Process & Programming, Linear Algebra, and Demography
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## Projects

### Mobile Networking Services in University of Kashmir

Description	This Project was based on the estimation of the use of mobile networking service by the student of the University of Kashmir Regarding the mobile networking services
Software	Excel and SPSS
Role	Group Leader

### Evaluation of Banking Performance-A Study on Data Envelopment Analysis

Description	In this Project, Banking data set based on the ownership classification for 6 year period has been taken and the main objective of this project is to obtain the efficiency level of banks which is identifying the efficient bank and benchmarking bank for inefficient bank
Software	DEA-Frontier, Frontier 4.1 and DEA Excel Solver
Role	Requirement Modelling Developer, Analysis, Designer

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## Extra-Curricular Activities and Achievements

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2089	jwk ei eubeiu urieb
2011	Winner of the Annual Road Race in the Government Degree College Pulwama, Srinagar-192303, J&K, India
2011	Participated in Annual Cycle Race in the Government Degree College Pulwama, Srinagar-192303, J&K, India

- 2013 Winner of the inter University Tournament held at University of Kashmir,190006, J&K, India
- 2016 Participated in Annual Road Race in Pondicherry University, Puducherry-605014, India
- 2017 Winner of the inter Department Tournament at Pondicherry University, Puducherry-605014, India

## Publications

- Ganaie, R. A., Rather, A. A., Saraja, D. V., Alam, M., Ahmad, A., Tali, A. M., & Elemary, B. R. (2023). EXPONENTIATED ADYA DISTRIBUTION: PROPERTIES AND APPLICATIONS. *Reliability: Theory & Applications*, 18(2 (73)), 39-49.
- Arif Muhammad Tali (2023). DEA Efficiency Evaluation through Joint Performance and Multi-objective Approach. *International Journal of Modern Mathematical sciences*, 20(1), 1-11
- Dar, Q. F., Tali, A. M., Hyo, A. Y., Dar, G. F., Bhat, S. A., Bhat, Y. H. (2021). Fuzzy Data envelopment Analysis with SBM using  $\alpha$ -level Fuzzy Approach. *Pakistan Journal of Statistics and Operation Research*, 17(3), 495-501.
- Muhammad, A., Rao, T., & Farooq, Q. (2018). DEA Window Analysis with a slack-based measure of Efficiency in Indian Cement Industry. *Statistics, Optimization & Information Computing*, 6(2), 292-302.
- Tali, A. M., Padi, T. R., & Dar, Q. F. (2016). Slack-based Measures of Efficiency in Two-stage Process: An Approach Based on Data Envelopment Analysis with Double Frontiers. *Int. J Latest Trends Fin. Eco. Sc. Vol*, 6(3), 1194.
- Shah, A., Tali, A., & Farooq, Q. (2018). Beta through the prism of wavelets. *Financial Innovation*, 4(1), 18.
- Dar, Q. F., Padi, T. R., & Tali, A. M. (2016). Mixed input and output orientations of data envelopment analysis with linear fractional programming and least distance measures. *Statistics, Optimization & Information Computing*, 4(4), 326-341.
- Rashid, U., Anwar, T. M., Arif, M., & Ahmad, M. (2009). Optimization of alkaline transesterification of rice bran oil for biodiesel production using response surface methodology. *Journal of Chemical Technology Biotechnology*, 84(9), 1364-1370.
- Dar, Q. F., Padi, T. R., & Tali, A. M. (2017). Decision support system through data envelopment analysis & stochastic frontier analysis. *International Journal of modern mathematical sciences*, 15(1), 1-13.
- Dar, Q. F., Pad, T. R., Tali, A. M., Hamid, Y., & Danish, F. (2017). Data Envelopment Analysis with Sensitive Analysis and Super-efficiency in Indian Banking Sector. *International Journal of Data Envelopment Analysis*, 5(2), 1193-1206.

- Tali, A. M., Padi, T. R., & Dar, Q. F. (2016). DEA Double Frontier in Two-Stage Processes with Slack-Based Measure. *Int. J. Modern Mgmt. Sci*, 5(1), 23-36.
- Tali, A. M., Padi, T. R., & Dar, Q. F. (2016). Slack-based Measures of Efficiency in Two-stage Process: An Approach Based on Data Envelopment Analysis with Double Frontiers. *Int. J Latest Trends Fin. Eco. Sc.* Vol, 6(3), 1194.

### ————— Paper Under Review

- **Mehraj Ahmad, Arif Muhammad, Ishfaq Farooq, and Aafaq Rather**, "Optimization of energy efficiency and investment cost of apple production systems in western Himalayas region for sustainable development", **Under review** in Journal of "Natural Resources Forum".
- **Arif Muhammad Tali, & Sayar Ahmad Taley**, "Efficiency Analysis and Ranking of Top 20 Indian Private Hospitals using Slack-based Data Envelopment Analysis", **Under Review** in Journal of Health Management. (**July 2024**)
- **Arif Muhammad Tali**, "Non-radial DEA models in double frontiers for Series Type Two-Stage Production processes", **Under Review** in OPSEARCH. (**November 2024**) in Contemporary Mathematics
- Arif Muhammad, Aafaq Rather, and Sayed Aadil, A new intermediate network data envelopment analysis model with Robust optimization; An Interactive Approach. **Under Review** in Statistics, Optimization, and Information Computing. (**November 2024**)

### ————— Paper Presented

- *Non-radial DEA model in Series type two-Stage production processes* presented in "15th International Conference on Data Envelopment Analysis" at University of Ekonomatrika, **Prague, Czech Republic**, from Jun 26-29, 2017.
- *A slack-based measure of efficiency in Data Envelopment Analysis: An approach to Indian cement industry* presented at "National Conference on recent trends in mathematical analysis & its applications" organized by Department of mathematics, pondicherry university n February 25-26, 2016.
- *Two-Stage Slack-Based Model in Data Envelopment analysis* on "Statistics and Optimization" in conjunction with XXXVI- Annual Convention of (ISPS) Organized by Department of Statistics and Operations Research, Aligarh Muslim University, Aligarh-India, from December 17-19, 2016.
- *Evaluating stage efficiency with weight priority in two-stage network DEA model* on " The 29th international conference of Jangjeon mathematical society" organized by Department of mathematics, pondicherry university n August 08-10, 2016.
- DEA Window Analysis for Efficiencies Caparison with Reference to Indian Cement Industry "Analytics in Operational Research" Organized by Operational Research Society of India at Birla Institute of Management Technology, Greater Noida New Delhi, from December 12-14, 2016.
- Data Envelopment Analysis in three-stage Networking structure with slack based measure (SBM) on "Analytics in Operational Research" Organized by Operational Research Society of

India at Birla Institute of Management Technology, Greater Noida New Delhi, from December 12-14, 2016.

- Decision Support System through Data Envelopment Analysis & Stochastic Frontier Analysis on "Recent Development in Mathematical Analysis and Its Applications" Organized by Department of Mathematics, at Ramanujan School of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India, from February 25-26, 2016.
- Super efficiency in fuzzy data envelopment analysis(FDEA) with high-frequency data in the DEA2015:15th International Conference on Data Envelopment Analysis organized by iDEAs at the University of Economics, Prague, Czech Republic, from Jun 26-29, 2017.
- *Fuzzy Analysis Approaches in DEA & SFA* on "Statistics and Optimization" in conjunction with XXXVI-Annual Convention of (ISPS) Organized by Department of Statistics and Operations Research, Aligarh Muslim University, Aligarh-India, from December 17-19, 2016.
- *Multiscale Bata Estimation through Wavelet* at International Conference on "Capital Market and Finance" Organized by the Department of Economics and Centre for Research at ST.Teresa's Collage Ernaklum Kerala, India. From 6th-7th January-2017.
- National Conference on "Emerging Trends in Statistical Research: Issues and Challenges" Organized by Department of Statistics Ramanujan School Of Mathematical Science, Pondicherry University Puducherry during February 16-17, 2015.
- International Conference on "Operations Research for Data Analysis and Decision Analysis" with the 46th Annual Convention of Operation Research Society of India (ORSI) Organized by (ORSI) In the Department of Statistics University of Kashmir, Srinagar during October 19-23, 2014.
- Fuzzy Data Envelopment Analysis in three Stage networking structure on the National Conference on "Recent Trend in Pure and Applied Mathematics", Organized by Kashmir Mathematical Society-KMS at the Department of Mathematics, University of Kashmir, srinager-J& K, in Dec 19, 2017.
- An Algorithm for Evaluating the Performance of banking Sector in India using a Stochastic Data Envelopment Analysis an International Conference on "Changing Paradigms and Emerging Challenges in Statistical Sciences" in Conjunction with Bi-Decennial Convention Society of Statistics, Computer and Application at the Department of Statistics Ramanujan School Of Mathematical Science, Pondicherry University Puducherry during Jan 29-31, 2018.

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## Faculty Development Programmes

- 27-31th May 2023 Completed a Five days Online Faculty Development Program on Data Analysis using R Studio organised by Intellectual Manch from May 27 , 2023, to May 31 , 2023.
- 24-25th March 2023 **Session Chair** in the "International Conference on Applied & Industrial Mathematics", Organized by Department of Mathematics, Sharda University, Greater Noida-India

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## Workshops and Seminars

- 24-25th March 2023 **Session Chair** in the "International Conference on Applied & Industrial Mathematics", Organized by Department of Mathematics, Sharda University, Greater Noida-India

- 24-25th June 2017 Two Days workshop on "**Data Envelopment Analysis**" organized by DEA society at **Prague Czech Republic**
- 23th June 2017 One day seminar on "tutorials on DEA organized by DEA society at **Vienna Austria**."
- 15th Jun to 10th Jul 2015 **26 Days** workshop on "**Matrix Methods and Fractional Calculus**" Organized by the Department of Science and Technology Government of India, New Delhi at Centre for Mathematical and Statistical Sciences Peechi Campus-(KFRI) Thissur Kerala-India.
- 30th May to 8th Jun 2016 **Ten days** Workshop on "**Productive Efficiency: Theory and Practice**" Organized by Global Initiative of Academic Networks, MHRD at Indian Institute of Technology Bhubaneswar-India.
- 17th to 23th Oct 2016 **Seven days** national workshop on "**Introduction to Research, Parametric and Non-Parametric Regression Classification and SEM**" Organized by Department of Commerce, School of Management, Pondicherry University, Kalapet Pondicherry-India.
- Dec 11, 2016 International Workshop on "**Data Envelopment Analysis**" Organized by Operational Research Society of India at Birla Institute of Management Technology, Greater Noida New Delhi, India.
- Oct 28, 2015 One day Workshop on "**URKUND: Plagiarism detection tool provided by INFLIBNET**" Organized by Ananda Rangapillai Library, Pondicherry University, India.
- 17th Mar 2015 International workshop on "**Intelligent Data Analysis Techniques**" Organized by Indian- TAIWAN Cooperation Sponsored by (IWIDAT) in the Department of Mathematical, Pondicherry University, Kalapet Pondicherry-India
- 15th Jul 2016 One Day National Workshop on "**Data Science and Big Data Analysis**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 23rd Feb 2017 Seminar on "**Role of Official Statistics in India Awareness, Impact & Opportunities**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 18th Jul 2016 Research Methodology Seminar on "**Odds Ratio and Singular Values- A Contrast:(Applications to population Genetics of Asthma)**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 18th Jul 2016 One Day National Workshop on "**Wonderful World of Data Mining and Statistical Genetics**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 30th-31st Jan 2018 Two Day National Workshop on "**Stochastic Modelling and Optimization Methods**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.



- 30th-31st Jan 2018 Two Day National Workshop on "**Stochastic Modelling and Optimization Methods**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 10-11 Feb 2018 Two Day Short Term Training Program on "**Stochastic Calculas**" Organized by Department of Statistics, Ramanujan School Of Mathematical Science, Pondicherry University, Kalapet Pondicherry-India.
- 4th May 2019 One Day Workshop on Polycystic Ovary syndrom (PCOS), Under ICMR-PCOS Task Force Study at SKIMS Srinagar-India.

## Associations

### International Journal of Data Envelopment Analysis

Designation Reviewer

Pakistan Journal of Statistics and Operation Research(PJSOR)

Designation Reviewer

Pakistan Journal of Statistics(PJS)

Designation Reviewer

International Journal of Statistics, Optimization & Information Computing

Designation Reviewer

Operations Research Society of India (ORSI)

Designation Member

International Data Envelopment Analysis Society (iDEAs)

Designation Member

Kashmir Mathematical Society-KMS

Designation Member

Indian Society for Probability & Statistics(ISPS)

Designation Member

## Personal Information

Date of Birth 25/03/1990

Birth Place Nildoorra Shopian, J&K

Gender Male

Marital Status Single

Nationality Indian

Hobbies Novels, Traveling, Web surfing, Barbecuing, Motorcycling

Languages English, Urdu, Kashmiri, Hindi

## Address for Communication

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8/10



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## Key Skills

**Writing** Author of more than 5 articles dealing with social, scientific and economic issues appeared in reputed newspapers like The Greater Kashmir, Kashmir Dispatch, Rising Kashmir, Indiaresits.  
**Leadership** Transformational Leader certified by Dale Carnegie and Associates.

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## Work Citations

Google Scholar Citations 68  
H.Index 5  
i10 Index 3

Google Scholar: <https://scholar.google.com/citations?hl=en&user=XP0me1UAAAAJ>

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## References

1. **Prof. Tirupathi Rao Padi**, Professor, Dept.of Statistics, Pondicherry University Puducherry-605014,India. Email: drtrpadi@gmail.com +91-948649241
2. **Dr. Bilal Ahmad Para** Assistant Professor Dept. of Mathematical Sciences, Islamic University of Science and Technology, Awantipora, Jammu and Kashmir-192122, India. Email:parabilal@gmail.com +91(0) 7006384470
3. **Prof. Biresh K Sahoo** Professor Dept. of Economics Xavier Institute of Management Xavier University, Bhubaneswar-75013, India. Email: biresh@ximb.ac.in +91(0)6746647735
4. **Prof. Vincent Charles** Professor Professor of Management Science, University of Buckingham Buckingham-UK. Email: v.charles@buckingham.ac.uk (44)7491226227

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## Declaration

I hereby declare that the above information is true and correct to my knowledge. Thank you for your time and Consideration.

Yours sincerely

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9/10

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