

Resume

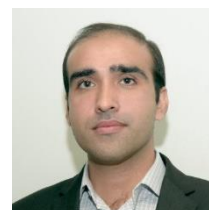
Dr. Waqar Ahmed Khan

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<https://scholar.google.com/citations?user=H3it7ucAAAAJ&hl=en>

<https://www.scopus.com/authid/detail.uri?authorId=57209985622>



BRIEF BIOSKETCH AND RESEARCH INTEREST

Dr. Waqar Ahmed Khan is an Assistant Professor in the Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, UAE. Dr. Khan obtained his Ph.D. from the Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University (PolyU) in Sep 2020. Before joining PolyU as a Ph.D. Fellowship Awardee, he had managerial experience of seven years in various multinational manufacturing companies in Pakistan.

His research interests are in artificial intelligence, machine learning, deep learning, data analytics, airline operations, logistics and supply chain management, production and operations research, reliability, optimization, and prediction. Dr. Khan has published peer-reviewed research articles in highly reputed journals, including Transportation Research Part C: Emerging Technologies, Transportation Research Part E: Logistics and Transportation Review, IEEE Transactions on Industrial Informatics, IEEE Transactions on Fuzzy Systems, International Journal of Production Research, Advanced Engineering Informatics, Journal of Intelligent Manufacturing, Journal of Air Transport Management, Annals of Operations Research, Arabian Journal for Science and Engineering, and Industrial Management & Data Systems.

ACADEMIC QUALIFICATION

Doctor of Philosophy, Industrial and Systems Engineering The Hong Kong Polytechnic University, Hong Kong (Prestigious Ph.D. Fellowship awardee from Research Grant Council, Hong Kong) Thesis Title: Estimation of Aircraft Trip Fuel Consumption: A Novel Self-Organizing Machine Learning Constructive Neural Network	2017 – 2020
Master of Science, Total Quality Management University of the Punjab, Lahore, Pakistan	2013-2015
Bachelor of Engineering, Industrial Engineering and Management University of the Punjab, Lahore, Pakistan	2005-2010

PROFESSIONAL EXPERIENCE

Assistant Professor , Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, UAE	Sep 2023 – till date
Assistant Professor , Department of Industrial and Systems Engineering, King Fahd University of Petroleum and Minerals, KSA	Jan 2022 – Aug 2023
Postdoctoral Fellow (Full-Time) , Centre for Advances in Reliability and Safety Limited The Hong Kong Polytechnic University, Hong Kong	Nov 2020 – Dec 2021
Postdoctoral Fellow (Part-Time) , Department of Supply Chain and Information Management, The Hang Seng University of Hong Kong, Hong Kong	Feb 2021 – July 2021
Research Assistant , Department of Supply Chain and Information Management, The Hang Seng University of Hong Kong, Hong Kong	Aug 2020 – Nov 2020
Manager Quality , BBJ Pipe Industries Ltd. Pakistan Manufacturer of GI, MS, and PE pipes	Mar 2017 – Aug 2017
Assistant Manager Manufacturing , Sanpak Engineering Industries (Pvt) Ltd. Pakistan (Joint Venture with SANDEN Corporation Japan) Manufacturer of Automotive Air Conditioning & its Components	Sep 2015 – Feb 2017

PUBLICATIONS

International Journal Publications

- Wang, Y., Khan, W. A., & Chung, S. H. (2024). Few-Shot Defect Detection of Catheter Products via Enlarged Scale Feature Pyramid and Contrastive Proposal Memory Bank. *IEEE Transactions on Industrial Informatics*.
- Pan, W., Liu, S. Q., Kumral, M., D'Ariano, A., Masoud, M., Khan, W. A., & Bakather, A. (2024). Iron ore price forecast based on a multi-echelon tandem learning model. *Natural Resources Research*, 1-24.
- Hou, S., Wang, T., Qiao, D., Xu, D. J., Wang, Y., Feng, X., Khan, W. A., & Ruan, J. (2024). Temporal-Spatial Fuzzy Deep Neural Network for the Grazing Behavior Recognition of Herded Sheep in Triaxial Accelerometer Cyber-Physical Systems. *IEEE Transactions on Fuzzy Systems*.
- Ullah, M., Khan, I., Malik, A. I., Khan, W. A., & Saleh, H. (2024). Optimizing supply chain profit by categorizing non-reworkable defective items. *Arabian Journal for Science and Engineering*, 49(5), 7611-7624.
- Khan, W. A., Masoud, M., Eltoukhy, A. E., & Ullah, M. (2024). Stacked encoded cascade error feedback deep extreme learning machine network for manufacturing order completion time. *Journal of Intelligent Manufacturing*, 1-27.
- Khan, W. A., Chung, S. H., Eltoukhy, A. E., & Khurshid, F. (2024). A novel parallel series data-driven model for IATA-coded flight delays prediction and features analysis. *Journal of Air Transport Management*, 114, 102488.
- Wang, Y., Chung, S. H., Khan, W. A., Wang, T., & Xu, D. J. (2023). ALADA: A lite automatic data augmentation framework for industrial defect detection. *Advanced Engineering Informatics*, 58, 102205.
- Wen, X., Chung, S. H., Ma, H. L., & Khan, W. A. (2023). Airline crew scheduling with sustainability enhancement by data analytics under circular economy. *Annals of Operations Research*, 1-27.
- Khan, W. A. (2023). Balanced weighted extreme learning machine for imbalance learning of credit default risk and manufacturing productivity. *Annals of Operations Research*, 1-29.
- Khan, W. A., Ma, H. L., Chung, S. H., & Wen, X. (2021). Hierarchical integrated machine learning model for predicting flight departure delays and duration in series. *Transportation Research Part C: Emerging Technologies*, 129, 103225.
- Khan, W. A., Ma, H. L., Ouyang, X., & Mo, D. Y. (2021). Prediction of aircraft trajectory and the associated fuel consumption using covariance bidirectional extreme learning machines. *Transportation Research Part E: Logistics and Transportation Review*, 145, 102189.
- Wen, X., Ma, H. L., Chung, S. H., & Khan, W. A. (2020). Robust airline crew scheduling with flight flying time variability. *Transportation Research Part E: Logistics and Transportation Review*, 144, 102132.
- Khan, W. A., Wang, Z., Ma, H. L., & Wen, X. (2020). Cascade neural network algorithm with analytical connection weights determination for modelling operations and energy applications. *International Journal of Production Research*, 58(23), 7094-7111.
- Qin, Y., Ma, H. L., Chan, F. T., & Khan, W. A. (2020). A scenario-based stochastic programming approach for aircraft expendable and rotatable spare parts planning in MRO provider. *Industrial Management & Data Systems*, 120(9), 1635-1657.
- Khan, W. A., Chung, S. H., Awan, M. U., & Wen, X. (2020). Machine learning facilitated business intelligence (Part I) Neural networks learning algorithms and applications. *Industrial Management & Data Systems*, 120(1), 164-195.
- Khan, W. A., Chung, S. H., Awan, M. U., & Wen, X. (2020). Machine learning facilitated business intelligence (Part II) Neural networks optimization techniques and applications. *Industrial Management & Data Systems*, 120(1), 128-163.
- Khan, W. A., Chung, S. H., Ma, H. L., Liu, S. Q., & Chan, C. Y. (2019). A novel self-organizing constructive neural network for estimating aircraft trip fuel consumption. *Transportation Research Part E: Logistics and Transportation Review*, 132, 72-96.

International Conference Proceedings

- Kehinde, T. O., Khan, W. A., & Chung, S. H. Financial Market Forecasting using RNN, LSTM, BiLSTM, GRU and Transformer-Based Deep Learning Algorithms. In *International Conference on Smart Mobility and Vehicle Electrification*. Michigan: IEOM.
- Khan, W. A., Chung, S. H., & Ma, H. L. (2020). Controlling air traffic congestion by predicting flight departure delays and duration: Integrating machine learning sampling techniques and deep learning approaches. In *Transportation Science and Logistics Second Triennial Conference* (pp. 40-41). Washington DC: INFORMS

Khan, W. A., Chung, S. H., Awan, M. U., & Wen, X. (2019). Improving the convergence and extracting useful information from high dimensional big data with neural networks. In *2019 International Conference on Business, Big-Data, and Decision Sciences (ICBBD)* (pp. 40-41). Tokyo.

Khan, W. A., Chung, S. H., & Chan, C. Y. (2018). Cascade Principal Component Least Squares Neural Network Learning Algorithm. In *2018 24th International Conference on Automation and Computing (ICAC)* (pp. 1-6). Newcastle: IEEE.

PROJECTS

A novel stacked autoencoder-based incremental error feedback extreme learning machine for smart manufacturing (Project code: INML2307) (Role: PI) 2023-24
Funded by: King Fahd University of Petroleum and Minerals, KSA

Autoencoder and Transformer based deep learning approach for industrial fault detection and diagnosis (Role: PI) 2024-Till Date
Funded by: University of Sharjah, UAE

PROFESSIONAL QUALIFICATION

Heating, Ventilation and Air Conditioning (HVAC) Design (From: Ministry of Industries and Production NIDA, Pakistan) 2015

Programmable Logic Controllers (PLC) (Mitsubishi) (From: Ministry of Industries, Pakistan Industrial Technical Assistance Center, Pakistan) 2013

3D CAD/CAM Delcam (PowerShape & PowerMill) (From: Ministry of Industries, Pakistan Industrial Technical Assistance Center, Pakistan) 2008

CERTIFICATES /AWARDS AND MEMBER

Member of **University Research Committee**, Deanship of Scientific Research, KFUPM, KSA 2022-2023

Member of **ABET and Design Committee**, ISE, KFUPM, KSA 2022

Certificate of award for **magnificent teaching support** given to the Department – The Hong Kong Polytechnic University, **Hong Kong** 2020

Hong Kong Ph.D. Fellowship award, **Hong Kong** 2017 - 2020

Asia Block-II Convention SANDEN International SINGAPORE, Singapore (Awarded “Special Award Shield” and certificate for achieving 3rd Position in Asia region) 2016

SMIS-AGS International Standards Ceremony, Pakistan (Awarded WAVES ISO 9001:2008 certificate by US Consul General Mr. Zachary V. Harkenrider for the Best Quality Management System) 2015

TEACHING EXPERIENCE

0405312 Operations Research	2023	ISE 351 Cooperative Work	2022-2023
0405464 Project Management	2023	ISE 487 Predictive Analytics Techniques	2023
ISE 291 Introduction to Data Science	2022, 2023	ISE 490 Senior Design Project	2022, 2023
ISE 391 Industrial Engineering Design	2022	ISE 499 Seminars	2022, 2023

SKILLS AND EXPERTISE

- Python programming language (Level: Expert)
- MATLAB programming language (Level: Intermediate)
- C++, Java programming language (Level: Basic)
- 3D CAD/CAM Delcam (PoweShape and PowerMill)
- SPSS, AMOS, Minitab

INTERNATIONAL BOOK/SOLUTION MANUAL REVIEWER

Taha, H. Operations Research, an Introduction. 11th Edition. Pearson (Prentice Hall) Manual Solution

INTERNATIONAL JOURNAL REVIEWER

Transportation Research Part E: Logistics and Transportation Review, IEEE Transactions on Engineering Management, IEEE Transactions on Systems, Man, and Cybernetics: Systems, IEEE Industrial Informatics, Annals of Operations Research, Arabian Journal for Science and Engineering, The Journal of Supercomputing, Engineering Applications of Artificial Intelligence

CONFERENCE SESSION CHAIR

International Conference on Business, Big-Data, and Decision Sciences (ICBBD), 2019
Tokyo, Japan

STUDENT SUPERVISION (THESIS)

Study of Artificial Intelligence for Visual Defect Inspection in Industrial Products (PhD student)--The Hong Kong Polytechnic University, Hong Kong	2022-2024
Exploring Inverse Data Envelopment Analysis and Cutting Edge Machine Learning Models for Equity Assessment and Volatility Prediction (PhD student)--The Hong Kong Polytechnic University, Hong Kong	2022-2024
Metaheuristic Approach for Artificial Neural Network Optimization (MS Student)- - King Fahd University of Petroleum and Minerals	2022-2023