

Zulfiqar Ahmad Khan

Postdoctoral Fellow (WASP), Department of Computing Science
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PROFILE

AI researcher working on computer vision, energy forecasting, edge and resource-efficient AI, and federated learning. Postdoctoral researcher at Umeå University (WASP); former coordinator of the Intelligent Media Laboratory (IMLab), leading a team of eight. Recognised among the world's top 2% scientists (2024, 2025, 2026).

49	14	3000+	25	30+	6
Publications	First-author papers	Citations	h-index	i10-index	Korean patents

EDUCATION

Sep 2019 – Feb 2025	Joint Master's and Ph.D. , Department of Software, Sejong University, Seoul, South Korea Thesis: <i>A Study of Spatiotemporal Feature Analysis using Deep Hybrid Models for Power Forecasting</i>
Sep 2016 – Aug 2018	M.Sc. in Computer Science , Islamia College Peshawar, Pakistan
Aug 2014 – Aug 2016	B.Sc. in Computer Science , University of Malakand, Pakistan

RESEARCH EXPERIENCE

May 2025 – present	Postdoctoral Researcher (WASP) , Dept. of Computing Science, Umeå University, Sweden <ul style="list-style-type: none">Open-set recognition, spiking vision transformers for energy-efficient vision, and federated learning on edge devices.Co-supervising PhD students in research ideation, implementation, and manuscript preparation.
Mar 2025 – Apr 2025	Postdoctoral Researcher , BrainAI Lab, Kyungpook National University, South Korea
Jul 2024 – Mar 2025	IMLab Coordinator , Sejong University, Seoul, South Korea <ul style="list-style-type: none">Led an eight-member team in energy informatics, computer vision, and signal processing; co-supervised Master's and PhD students.Contributed to multi-year research proposals for the National Research Foundation of Korea (NRF).
Sep 2019 – Jun 2024	Research Assistant , Intelligent Media Laboratory, Sejong University, South Korea

SELECTED PUBLICATIONS

37 journal articles, 12 conference papers, 6 Korean patents — full list on Google Scholar.

- [1] **Optimized Cross Module Attention Network and Database for Fire Detection.** Zulfiqar Ahmad Khan, F. U. M. Ullah, H. Yar, W. Ullah, S. W. Baik. *Pattern Recognition*, 2025.
- [2] **DSPM: Dual sequence prediction model for efficient energy management in micro-grid.** Zulfiqar Ahmad Khan, S. A. Khan, T. Hussain, S. W. Baik. *Applied Energy*, 2024.
- [3] **A Trapezoid Attention Mechanism for Power Generation and Consumption Forecasting.** Zulfiqar Ahmad Khan, T. Hussain, W. Ullah, S. W. Baik. *IEEE Transactions on Industrial Informatics*, 2023.
- [4] **Dual stream network with attention mechanism for photovoltaic power forecasting.** Zulfiqar Ahmad Khan, T. Hussain, S. W. Baik. *Applied Energy*, 2023.
- [5] **Modelling Electricity Consumption During the COVID-19 Pandemic: Datasets, Models, Results and a Research Agenda.** Zulfiqar Ahmad Khan, T. Hussain, A. Ullah, et al. *Energy and Buildings*, 2023.
- [6] **Randomly initialized CNN with densely connected stacked autoencoder for efficient fire detection.** Zulfiqar Ahmad Khan, T. Hussain, F. U. M. Ullah, et al. *Engineering Applications of Artificial Intelligence*, 2022.

AWARDS & RECOGNITION

2021 – 2025	Scholarly Index rankings , Fire Detection: world rank 14 of 2,458 (top 0.57%); Energy Forecasting: top 1.4%; Photovoltaics: top 2.1% (source)
Feb 2025	Outstanding Researcher Award , Sejong University
Sep 2023	Best Paper Award , Next Generation Computing Conference, Jeju, South Korea
Sep 2019	Full Scholarship , Joint Master's and Ph.D. Program, Sejong University

SKILLS & SERVICE

Technical	Python, C++, PyTorch, TensorFlow, Keras, OpenCV, Pandas, NumPy, Git, $\LaTeX$; federated, incremental and active learning
Peer review	60+ reviews (ORCID) for IEEE T-CYB, IEEE TII, EAAI, Knowledge-Based Systems, AI Review, and others
References	Prof. Sung Wook Baik (Sejong) · Dr. Monowar Bhuyan (Umeå) · Dr. Amin Ullah (Boeing) — on request