# Dr. Zeshan Aslam Khan

## Personal Information

**Date of Birth:** JUNE 27, 1980
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## Education

- **PhD Electronic Engineering** (With Honors) **2020** **CGPA: 4.0/4.0**
  International Islamic University, Islamabad, Pakistan
- **MS Computer Systems Engineering** (With Honors) **2010** **CGPA: 3.8/4.0**
  Halmstad University, Halmstad, Sweden
- **BS Computer Information Systems Engineering** **2005** **CGPA: 3.16/4.0**
  University of Engineering & Technology, Peshawar, Pakistan

## Work Experience

| Organization | Designation | From | To |
|---|---|---|---|
| International Islamic University Islamabad | Assistant Professor | 4-10-2011 | Date |
| International Islamic University Islamabad | Lecturer | 4-3-2006 | 3-10-2011 |
| COMSATS Abbottabad | Research Associate | 29-11-2005 | 28-2-2006 |

## Departmental Experience

| Committee | Position | From | To |
|---|---|---|---|
| Undergraduate Committee | Coordinator/Member | Jan 2007 | Aug 2009 |
| Student Activities (1 Year) | Head/In-charge | Spring 2012 | Spring 2013 |
| Undergraduate Committee (2 Years+) | Head/In-charge | Spring 2013 | Fall 2015 |
| OMR Checking Committee (3 Years) | Head/In-charge | Fall 2015 | Fall 2018 |
| Open House Transport Committee | Head/In-charge | Fall 2015 | Date |
| DQAC Committee | Secretary | Fall 2018 | Date |
| Final Year Projects Committee | Head/In-charge | Fall 2020 | Date |

## Research profile

Number of Publications: 11
Accepted Research Article (2020): 01
Number of Submissions: 4
Articles in Pipeline: 2

## Research Interests

Machine learning; Artificial Intelligence: System Identification; Fractional Calculus; Optimization Heuristics; Adaptive Algorithms and Embedded Systems.

## Academic/Professional Membership

- Institute of Electrical and Electronic Engineering (IEEE), Student member
- Pakistan Engineering Council (Member), Registration No. COMP/3175

## Courses Taught

- Digital Logic Design
- Digital Logic Design Lab
- Computer Architecture
- Computer Architecture Lab
- FPGA based system design lab using Verilog HDL. (Simulation and implementation)
- Microprocessors and Microcontrollers (8051, AVR, PIC, Arduino)
- Embedded Systems Lab (8051, AVR, PIC Microcontroller "P18F452")
- Fundamentals of Programming (C and C++)
- Object Oriented Programming using C++
- Professional Engineer (Pro-Engineer 2.0)

## Programming Languages/ Softwares Skills

- **Operating Systems**: DOS, Windows 98/2000/NT/XP/7/8
- **Languages**: AgentSpeak (Jason), Java, C/C++, Verilog HDL, Assembly, Python
- **Softwares**: MATLAB, Simulink, Proteus, Pro-Engineer 2.0

## Publications Detail

**[1].** S. Iqbal, O. Hasan, R. Hafiz and **Z. A. Khan**, "LPQ-SAM: A Low Power Quality Scalable Approximate Multiplier" *Journal of Circuits, Systems and Computers*, , 2150017, 2020. **(IF 1.363)**

**[2].** **Z. A. Khan,** N. I. Chaudhary and S. Zubair, "Fractional stochastic gradient descent for recommender systems," *Electronic Markets.*, vol. 29, pp. 275-285, 2019. **(IF 3.553)**

**[3].** **Z. A. Khan**, S. Zubair, K. Imran, R. Ahmad, S. A. Butt and N. I. Chaudhary, "A New Users Rating-trend based Collaborative Denoising Auto-Encoder for Top-N Recommender Systems" *IEEE Access.*, vol. 7, pp. 141287-141310, 2019. **(IF 4.098)**

**[4].** **Z. A. Khan**, N. I. Chaudhary, S Zubair, M. A. Z. Raja, F. A. Khan and N. Dedovic, " Design of Normalized Fractional SGD Computing Paradigm for Recommender Systems," *Neural Computing and Applications*, pp. 1-18, Oct. 2019. **(IF 4.664)**

**[5].** **Z. A. Khan**, S. Zubair, H. Alquhayz, M. Azeem and A. Ditta, " Design of Momentum Fractional Stochastic Gradient Descent for Recommender Systems " *IEEE Access.*, vol. 7, pp. 179575-179590, 2019. **(IF 4.098)**

**[6].** N. I. Chaudhary, **Z. A. Khan,** S Zubair, M. A. Z. Raja and N. Dedovic, "Normalized Fractional Adaptive methods for Nonlinear Control Autoregressive Systems," *Applied Mathematical Modelling*, vol. 66, pp. 457-471, 2019. **(IF 2.841)**

**[7].** S. Zubair, N. I. Chaudhary, **Z. A. Khan,** and W. Wang, "Momentum fractional LMS for power signal parameter estimation," *Signal Processing*, vol. 142, pp. 441-449, 2018. **(IF 4.086)**

**[8].** N. I. Chaudhary, M. Ahmed, **Z. A. Khan,** S Zubair, M. A. Z. Raja and N. Dedovic, "Design of normalized fractional adaptive algorithms for parameter estimation of control autoregressive autoregressive systems," *Applied Mathematical Modeling*, vol. 55, pp. 698-715, 2018. **(IF 2.841)**

**[9].** M. Muzammil, **Z. A. Khan**, M. O. Ullah and I. Ali, "Performance analysis of block matching motion estimation algorithms for HD videos with different search parameters," 2016 International Conference on Intelligent Systems Engineering (ICISE), Islamabad, 2016, pp. 306-311.

**[10].** S. Batool, **Z. A. Khan,** W. Kamal, G. Mushtaq, and M. A. Kamal, " In silico Screening for Identification of Novel Anti-malarial Inhibitors by Molecular Docking, Pharmacophore Modeling and Virtual Screening," *Medicinal Chemistry*, vol. 11(7), pp. 687-700, 2015 **(IF 2.53)**

**[11].** **Z. A. Khan,** E. P. de Freitas, T. Larsson, and H. Abbas "A multi-agent model for fire detection in coal mines using wireless sensor networks," In 2013, *12th IEEE International Conference on Trust, Security and Privacy in Computing and Communications*, pp. 1754-1761. IEEE, 2013.

## References

1. Dr. Naveed Ishtiaq Chaudhary
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   International Islamic University, Islamabad, Pakistan
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2. Dr. Muhammad Asif Zahoor Raja
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   Future Technology Research Center
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