

Resume: Dr. Imtiaz Rasool

Contact Information

Permanent Address: House No. 403, Street No. 64, I-8/3, Islamabad.

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Personal Information

Date/Place of Birth: 21st January 1979, South Waziristan

Nationality: Pakistani

Languages: Urdu, English, Pashtu, Punjabi

Objective

To equip my students with various technical, researching, management, and decision-making skills acquired during an illustrious academic career built at few of the best institutions in the country and abroad.

Education

Degree	Institute	Duration	Grade/GPA	City/Country
PhD in Electronics & Electrical Engineering	University of Leeds, UK	2009-2013	Passed	Leeds, United Kingdom
Bachelor of Science in Electronic Engineering	Ghulam Ishaq Khan Institute of Engineering Sciences & Technology	2002–2003	CGPA: 3.17	Topi, Pakistan
Bachelor of Science in Engineering Sciences, Specialization In Modeling and Simulation Techniques	Ghulam Ishaq Khan Institute of Engineering Sciences & Technology	1998 – 2002	CGPA: 2.50	Topi, Pakistan
Higher Secondary School Certificate	Islamabad Model College for Boys F-7/3	1995 – 1997	Grade: A	Islamabad, Pakistan
Secondary School Certificate	Islamabad Model School for Boys F-8/3	1993 – 1995	Grade: A+	Islamabad, Pakistan

Research Work and Projects

PhD Thesis Title: RSSI and TOF based Localization Improvement in a Wireless Sensor Network (WSN)

Research Publications:

1. M. Nadeem, S. U. Haq, N. Gul, M. Wasimuddin, I. Rasool, **“Mitigating Primary User Emulation Attacks in Cooperative Spectrum Sensing,”** The Sciencetech, vol. 5(4), pp. 1-12, **2024**.
2. M. Kamran, I. Rasool, S. Ullah, F. Ullah, M. Wasimuddin, M. N. Khan, S. U. Haq, **“A Study of Diverse Modifications in Particle Swarm Optimization,”** Power System Technology, vol. 48(4), pp. 95-110, **2024**.
3. I. Khan, S. U. Haq, M. I. Majid, I. Rasool, M. S. Shah, **“Audio-visual Human Emotion Recognition Using Hierarchical Approach,”** Pakistan Journal of Scientific and Industrial Research, vol. 67(3), pp. 261-267, **2024**.
4. M. Kamran, I. Rasool, F. Ullah, M. Wasimuddin, M. N. Khan, N. A. Khan, **“A Design of SEPIC Converter for Powering the Wireless Sensor Nodes in a Bridge Monitoring Setup Using a Piezoelectric Energy Harvester,”** Power System Technology, vol. 48(3), pp. 1069-1095, **2024**.
5. F. Imdad, S. U. Haq, I. Rasool, M. Wasimuddin, M. O. Farooq, **“Content-Based Image Retrieval Established on Deep and Handcrafted Features,”** The Sciencetech, vol. 5(2), pp. 1-12, **2024**.

6. A. Adil, S. U. Haq, M. S. Shah, I. Rasool, M. Kamran, **"Speech Emotion Recognition Using Hierarchical Approach Based On Bhattacharyya Distance,"** The Sciencetech, vol. 5(1), pp. 1-14, **2024**.
7. M. Shoaib, S. U. Haq, M. S. Shah, I. Rasool, M. O. Farooq, **"Audio-Visual Emotion Recognition Using Multilevel Fusion,"** The Sciencetech, vol. 5(1), pp. 39-51, **2024**.
8. M. Kamran, F. Ullah, A. Khan, Z. Umar, I. Ullah, I. Rasool, I. Khan. **"Power Quality Improvement in Micro Hydropower Plants through FPGA-Based Harmonic Elimination in Electronic Load Controller,"** Power System Technology, vol. 48(1), pp. 953-972, **2024**.
9. M. Kamran, I. Ullah, S. U. Haq, I. Rasool, F. Ullah, A. Khan, **"A Novel and Hybrid MPPT Algorithm For Photovoltaic Electronic System,"** International Journal of Applied Engineering & Technology, vol. 6(1), pp. 1579-1589, **2024**.
10. A. Mudassar, S. U. Haq, M. I. Majid, I. Rasool, M. Kamran, **"Audio-Based Emotion Classification Using Ensemble Classifier,"** Pakistan Journal of Engineering Technology and Science, vol. 11(2), pp. 11-21, **2023**.
11. S. Begum, S. U. Haq, M. S. Shah, M. Kamran, I. Rasool, **"Audio Features Analysis for Speech Emotion Recognition,"** The Sciencetech, vol. 4(4), pp. 32-43, **2023**.
12. S. Uddin, A. Zaman, I. Rasool, S. Akbar, M. Kamran, N. Mehboob, A. Ali, A. Ahmad, M. F. Nasir, Z. Iqbal, **"Structural investigation and improvement of microwave dielectric properties in $\text{Ca}_{1-x}\text{Ba}_x\text{TiO}_3$, low loss ceramics,"** Journal of Ceramic Processing Research, vol. 21(6), pp. 745-750, **2020**.
13. N. Gul, I. M. Qureshi, A. Naveed, A. Elahi, I. Rasool, **"Secured soft combination schemes against malicious-users in cooperative spectrum sensing,"** Wireless Personal Communications, vol. 108(1), pp. 389-408, **2019**.
14. N. Gul, I. M. Qureshi, S. Akbar, M. Kamran, and I. Rasool, **"One-to-Many Relationship Based Kullback Leibler Divergence against Malicious Users in Cooperative Spectrum Sensing,"** Wireless Communications and Mobile Computing, vol. 2018, pp. 1-14, **2018**.
15. N. Gul, I. M. Qureshi, A. Elahi, and I. Rasool, **"Defense against Malicious Users in Cooperative Spectrum Sensing Using Genetic Algorithm,"** International Journal of Antennas and Propagation, vol. 2018, pp. 1-12, **2018**.
16. M. Amin, A. Khan, M. Asif, S. Ul Haq, and I. Rasool, **"A Survey of Routing Protocols for Delay Tolerant Networks in VANETS,"** Science International (Lahore) vol. 28(2), pp. 1137-1143, **2016**.
17. I. Rasool and A. H. Kemp, **"Statistical Analysis of Wireless Sensor Network Gaussian Range Estimation Errors,"** in IET journal on Wireless Sensor Systems (WSS), vol. 3(1), pp. 57-68, **2013**.

Conference Proceedings:

1. A. Ahmed, N. Gul, I. Rasool, A. Elahi, **"Performance Comparison of Hard Decision Schemes in the Presence of Malicious Users,"** in IEEE 1st International Conference on Electrical, Communication and Computer Engineering (ICECCE), Swat, Pakistan, 24-25 July **2019**.
2. H. Asfandiyar, N. Gul, I. Rasool, A. Elahi, **"Enhanced Cooperative Spectrum Sensing in Cognitive Radio Network Using Flower Pollination Algorithm,"** in IEEE 1st International Conference on Electrical, Communication and Computer Engineering (ICECCE), Swat, Pakistan, 24-25 July **2019**.
3. I. Rasool, N. Salman, and A. H. Kemp, **"RSSI-based Positioning in Unknown Path-Loss Model for WSN,"** in IET 3rd Sensor Signal Processing for Defence (SSPD) Conference, London, UK, 25-27 September **2012**.
4. I. Rasool, I. G. Tudorache, N. Salman, and A. H. Kemp, **"Range Filtration Algorithm for Wireless Sensor Networks,"** in 20th Telecommunications Forum (TELFOR 2012), Belgrade, Serbia, 20-22 November **2012**.
5. G. Tudorache, I. Rasool, and A. H. Kemp, **"Indoor RSSI-Based Ranging Consistency and Error Factors in Wireless Sensor Networks,"** in 20th Telecommunications Forum (TELFOR 2012), Belgrade, Serbia, 20-22 November **2012**.
6. I. Rasool, H. Maheshwari, and A. Kemp, **"Error distribution of range measurements in Wireless Sensor Networks (WSNs),"** in IEEE International Symposium on Personal Indoor and Mobile Radio Communication (PIMRC), Istanbul, Turkey, pp. 1990-1995, 26-30 September **2010**.
7. I. Rasool, N. Salman, and A. H. Kemp, **"GOF analysis for Gaussianity assumption of range errors in WSN,"** 7th International Symposium on Wireless Communication Systems (ISWCS), York, UK, pp. 154-158, 19-22 September **2010**.
8. N. Salman, I. Rasool, and A. H. Kemp, **"Overview of the IEEE 802.15.4 standards family for Low Rate Wireless Personal Area Networks,"** in 7th International Symposium on Wireless Communication Systems (ISWCS), York, UK, pp. 701-705, 19-22 September **2010**.
9. M. Z. Akram, A. Idris, and I. Rasool, **"Wireless Telephony and Messaging (WTM): A new security layer in your phone,"** in IEEE Students Conference (ISCON 2002), Lahore, Pakistan, pp. 162-165, vol. 1, 16-17 August **2002**.

BS Final Year Projects:

1. Wireless Telephony and Messaging (Final year project BS Engineering Sciences, **2002**)
2. Private Automatic Branch Exchange (Final year project BS Electronics, **2003**)

Job Experience

Pakistan Telecommunications Corporation Limited (PTCL)

Summer 2000

As an **Internee** I learned how various exchange modules work and switching is carried out.

TeleCard Ltd

May 2003 – Oct 2008

As an **NSS Supervisor** following were my JOB Responsibilities (only few are mentioned here):

- Monitoring network devices (i.e. Billing Server, ZTE MAP server, ZTE HLR Server, ZTE MSC/ VLR server)
- Rectifying customer complaint as entered into the CCMS or coming via email from all over the Pakistan.
- CDR files generation on daily basis and transferring it to PTCL / MIS billing systems.
- Conducting performance tests such as, signaling link utilization, congestion observation on trunks, etc.
- Monitoring and reporting faults occurring at power modules, batteries, UPS, ACs, etc.
- Collecting alarms from core network devices and do the required action for rectification.
- Build SS7 interconnect, call routing, creating and modifying codes, correction and addition of new city tariff.
- Perform diagnostic tests of different cards at MSS to know any hardware faults OR software problems.
- Ensuring backup of whole system is being taken periodically and SOPs are followed by shift engineers.

University of Leeds

Jan 2009 – Feb 2013

As a **PhD Scholar** at the University of Leeds, UK, I was appointed for the following paid jobs.

- Exams Invigilator.
- Evening Lab Supervisor

University of Peshawar (Electronics Department)

April 2013 – Till date

As an **Assistant Professor**, following are the courses I have been teaching:

BS Electronics

- Semiconductor Materials and Devices
- Calculus-I
- Linear Algebra & Differential Equations
- Quantitative Reasoning-I & II
- Introduction to Computers
- Optoelectronics
- Electronics-I
- Instrumentation and Measurements
- Solid State Electronics

Student Research/Projects:

- Self-Driving Robot for Automated Warehouse

Msc Electronics

- Solid State Electronics
- Laser Theory

Student Research/Projects:

- Early Flood Detection and Response System.
- Modern House Automation.
- Solar Powered Auto Irrigation and Monitoring System.
- Indoor Localization through Ultrasonic Sensor Arduino Based.
- Green Energy Generation by Water Stored in Overhead Tanks.

M.Phil Electronics

- Solid State Electronics
- Electronic Materials
- Semiconductor Devices and Technology

- Thesis Writing & Presentation Skills
- M. Phil Supervision (5 Students)

Student Research/Projects:

- Interference Minimization in Orthogonal Frequency Division Multiplexing based Cognitive Radio Systems.
- Improved Generalized Sidelobes Canceler for Orthogonal Frequency Division Multiplexing based Cognitive Radio Systems.
- Enhanced Cooperative Spectrum Sensing in Cognitive Radio Networks using Flower Pollination Algorithm.
- Content-Based Image Retrieval Established on Deep Learning and Hand Crafted Descriptors.
- Detection of Malicious Users in Cognitive Radio Networks using Outlier Detection Tests.

Phd Electronics

- Solid State Electronics
- Thesis Writing & Presentation Skills
- Wireless Networks
- Optical Devices and Fiber Optics Communication
- PhD Supervision (2 Students)

Student Research/Projects:

- A Dynamic Particle Swarm Optimization Method Applicable to Optimize Advanced Science and Engineering Problems.
- A Design of Forecasting Model using Artificial Neural Network to Fulfill the Short-Term Energy Demands in Electric Vehicle Charging Station.

Professional Skills:

- **Programming Languages:** C, C++, and Verilog.
- **Operating Systems:** Linux, Windows.
- **Web Development:** Flash, Adobe Photoshop, HTML, Front Page.
- **Software Packages:** Matlab, MathCAD, AutoCAD, Simulink, Lyx, MS office tools, etc.

Formal Trainings:

Institute	Training Type	Duration
University of Peshawar	Quality Assurance in Higher Education	26/12/2022 --- 26/12/2022
University of Peshawar	Workshop on "Patent Drafting and Filing"	4/6/2015 --- 4/6/2015
Pakistan Manpower Institute, Pakistan	Communication Skills	6/7/2015 --- 9/7/2015
EDEXCEL, UK	Door Supervision	17/5/2010 --- 21/5/2010
EDEXCEL, UK	Conflict Management	17/5/2010 --- 21/5/2010
CHARTERED INSTITUTE of Environmental Health, UK	Health and Safety	28/1/2009 --- 29/1/2009
TOTAL TELECOM, Pakistan	Communication Development	17/1/2008 --- 18/1/2008
CDMA University	QUALCOMM Training on CDMA	1/6/2004 --- 10/6/2004
National Guards	National Cadet Corps Training	1/9/1995 --- 22/9/1996

MISC Experience and Memberships:

- Member IEEE
- Part of other Universities Examination committees for MS/PhD Thesis Defence (UET Peshawar, GIKI, Islamia College Peshawar)
- BS Electronics Coordinator for 3.5 Years.
- Focal Person for Different HEC Scholarship programs, Laptop schemes, etc., for multiple years.
- Board of Studies (Department of Electronics, University of Peshawar)

- Board of Studies (Department of Electronics, University of Buner)
- Board of Studies (Department of Electronics, Islamia College Peshawar)
- Board of Studies (Department of Electronics, FATA University)
- Board of Studies (Department of Physics, Islamia College Peshawar)
- Appellate Committee (Department of Electronics, Islamia College Peshawar)
- Scrutiny and Quantification Committee (Bacha Khan University)
- Subject Expert in Selection Board (Islamia College Peshawar)
- Graduate Studies Committee (Department of Electronics, University of Peshawar)
- Admission Committee (Department of Electronics, University of Peshawar)
- Program Team (PT) member for BS/MS/M.Phil/PhD Academic Programs: Self-Assessment Report (SAR), Institutional Performance Evaluation (IPE), Post Graduate Program Review (PGPR)

Awards and Achievements:

- IEEE Certificate of Merit
- Selected best Athlete for the year 1998 in College.
- Multiple sports awards and certificates.