

# Atif Shakeel<sup>Ph.D.</sup>

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## SUMMARY

Self-motivated researcher with over a decade of experience and around ten high-impact factor journal publications. Quick learner and adaptive with proven problem-solving and interpersonal skills, as well as the ability to translate research ideas into commercial products.

## TECHNICAL SKILLS

### PROGRAMMING

Python, Matlab, C++,

### MACHINE LEARNING TOOLS

Scikit-learn, TensorFlow, Keras  
Pandas, Numpy, Scipy,

### SOFTWARE TOOLS

Wolfram Mathematica, MS Office  
NS3, Cisco Packet Tracer, LATEX

### RESEARCH SKILLS

Data collection and analysis,  
Problem formulation,  
Problem solving, Technical writing

## SIGNIFICANT COURSES

### UDEMY

5G: Technologies, Architectures and  
Protocols

### QUALCOMM WIRELESS ACAD

Fundamentals of Cellular Communication  
and 5G, 5G Primer, 5G NR Technical  
Training

### CISCO NETWORKING ACAD

CCNA

## RESEARCH INTEREST

5G Communication systems  
Distributed Machine learning algorithms  
Task offloading in Edge/Fog Computing  
Cognitive Radio Networks  
D2D Communications in 5G

## SELECTIVE PROJECTS

Intelligent task offloading in Fog  
computing-based V2V networks  
Hybrid spectrum access mechanism for  
multi-class CRNs  
IoT-based healthcare monitoring system.  
Channel state prediction in CRNs using  
machine learning.

## EDUCATION

**PH.D. ELECTRICAL ENGINEERING** | COMSATS University Islamabad  
2013 – 2020 | Islamabad, Pakistan

**MSC COMPUTER SCIENCE & ENGG.** | CHALMERS University of  
Technology  
2007 – 2009 | Gothenburg, Sweden

**SUMMER ACADEMY ON WIRELESS COMMS** | Technical University  
of Ilmenau  
2009 | Ilmenau, Germany

**BSC COMPUTER ENGINEERING** | COMSATS University Islamabad  
2001 – 2004 | Islamabad, Pakistan

## PROFESSIONAL EXPERIENCE

**ASSISTANT PROFESSOR** | COMSATS University Islamabad  
2009 – Present | Islamabad, Pakistan

- **Teaches** a variety of courses at the undergraduate level, including Artificial Intelligence (AI), Wireless Communications, and Data Communications and Computer Networks (DCCN), DLD, Computer Architecture.
- Successfully managed undergraduate **projects** in communications, machine learning, and IoT that helped students secure funding for higher education. Working on numerous **research** projects involving CRNs, D2D communications, IoT, Edge Computing, V2V communications.
- Student counselling and **curriculum design** and development. Implementation of ABET/OBE framework for AI and DCCN.

**NETWORK ENGINEER** | Clickitivities Middle East FZ LLC  
2006 – 2006 | Dubai, U.A.E.

- Provided technical sales support for enterprise service management software, which contributed to increased overall sales.

**RADIO NETWORK PLANNING ENGINEER** | Huaxin Consulting Ltd  
2005 – 2006 | Islamabad, Pakistan

- Nominal site planning and coverage testing were successfully completed for more than 21 sites spread across seven cities under CDMA 2000 WLL phase III project including: site auditing, inspection and installation.

**NETWORK SUPPORT ENGINEER** | Future Technologies Pvt Ltd  
2004 – 2005 | Islamabad, Pakistan

- Successfully deployed, managed, and supplied L2/3 network support in 7+ locations under a managed services contract operating TCP/IP, RIP, OSPF, VPNs, SDH, ISDN, and NAT.

## LANGUAGES

### ENGLISH

Working proficiency

### URDU

Native

### PUNJABI

Native

## ACHIEVEMENTS

A **Merit scholarship** for the faculty development program was awarded. Higher Education Commission, Pakistan funded tuition and costs for master's studies.

The **Best oral paper presentation** award was given at the 6th Int'l Conference on Information Communication and Management, 2016, Hertfordshire, UK.

## AFFILIATIONS &

## MEMBERSHIP

IEEE(student)

Pakistan Engineering Council

Final Year Project Committee (CUI)

Board of European students of technology (2007-2009)

## REFERENCES

### PROF. DR. RAJA ALI RIAZ

Professor,

Dept of Electrical and Computer Engg.

COMSATS University Islamabad

rajaali@comsats.edu.pk

### DR. RIAZ HUSSAIN

Associate Professor,

Dept of Electrical and Computer Engg.

COMSATS University Islamabad

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## PUBLICATIONS (GOOGLE SCHOLAR H-INDEX=7, CITATIONS=108)

### JOURNALS

1. Rahim, Muddasir, Riaz Hussain, Irfan L. Khan, A. Naseem Alvi, M.Awais Javed, **Atif Shakeel**, Qadeer UI Hasan, Byung Moo Lee, and Shahzad A. Malik. "Self-Organized Efficient Spectrum Management through Parallel Sensing in Cognitive Radio Network." *Wireless Communications and Mobile Computing* 2021.
2. Iqbal, Adeel, Muddasir Rahim, Riaz Hussain, Abdulfattah Noorwali, Mohammad Zubair Khan, **Atif Shakeel**, Irfan Latif Khan, Muhammad Awais Javed, Qadeer UI Hasan, and Shahzad A. Malik. "cDERSA: Cognitive D2D Enabled Relay Selection Algorithm to Mitigate Blind-Spots in 5G Cellular Networks." *IEEE Access* (2021).
3. Alvi, **Shakeel A.**, Riaz Hussain, Atif Shakeel, Muhammad Awais Javed, Qadeer UI Hasan, Byung Moo Lee, and Shahzad A. Malik. "QoS-Oriented Optimal Relay Selection in Cognitive Radio Networks." *WCMC 2021* (2021).
4. Iqbal, Adeel, Riaz Hussain, **Atif Shakeel**, Irfan Latif Khan, Muhammad Awais Javed, Qadeer UI Hasan, Byung Moo Lee, and Shahzad A. Malik. "Enhanced Spectrum Access for QoS Provisioning in Multi-Class Cognitive D2D Communication System." *IEEE Access* 9 (2021): 33608-33624.
5. Rahim, Muddasir, Ahmed S. Alfakeeh, Riaz Hussain, Muhammad Awais Javed, **Atif Shakeel**, Adeel Israr, Alhuseen Omar Alsayed, and Shahzad A. Malik. "Efficient channel allocation using matching theory for QoS provisioning in cognitive radio networks." *Sensors* 20, no. 7 (2020): 1872.
6. **Shakeel Atif**, Riaz Hussain, Adeel Iqbal, Irfan L. Khan, Qadeer UI Hasan, and Shahzad A. Malik. "Spectrum Handoff based on Imperfect Channel State Prediction Probabilities with Collision Reduction in Cognitive Radio Ad Hoc Networks." *Sensors* 19, no. 21 (2019): 4741.
7. **Shakeel Atif**, Riaz Hussain, Adeel Iqbal, Irfan L. Khan, and Shahzad A. Malik. "Analysis of efficient spectrum handoff in a multi-class hybrid spectrum access CRNs using Markov modelling." *Sensors* 19, no. 19 (2019): 4120.
8. Hussain Riaz, **Atif Shakeel**, Adeel Iqbal, Junaid Ahmed, Shakeel Alvi, Qadeer ul Hasan, and Shahzad A. Malik. "Efficient idle channel discovery mechanism through cooperative parallel sensing in cognitive radio network." *EURASIP Journal on Wireless Communications and Networking* 2018, no. 1 (2018): 1-15.
9. Omoniwa, Babatunji, Riaz Hussain, Muhammad Adil, **Atif Shakeel**, Ahmed Kamal Tahir, Qadeer UI Hasan, and Shahzad A. Malik. "An optimal relay scheme for outage minimization in fog-based internet-of-things (IoT) networks." *IEEE Internet of Things Journal* 6, no. 2 (2018): 3044-3054.
10. Khan, Irfan Latif, Riaz Hussain, Adeel Iqbal, **Atif Shakeel**, Shakeel Alvi, Waseem Abbas, Qadeer ul Hasan, and Shahzad A. Malik. "Design and evaluation of self-organizing, collision-free MAC protocol for distributed cognitive radio networks." *Wireless Personal Communications* 99, no. 2 (2018): 1081-1101.

## CONFERENCES

1. **A. Shakeel**, A. Iqbal, A. Nauman, R. Hussain, X. Li and K. Rabie, "6G driven Vehicular Tracking in Smart Cities using Intelligent Reflecting Surfaces," 2023 IEEE 97th VTC2023-Spring, Florence, Italy, 2023, pp. 1-7
2. **A. Shakeel**, R. Hussain, A. Iqbal, I. Latif, S. A. Malik and B. Omoniwa, "Adaptive Spectrum Handoff Scheme in Cognitive Radio Ad-Hoc Networks," 2018 International Conference on Advances in Computing and Communication Engineering (ICACCE), Paris, France, 2018, pp. 127-132, doi: 10.1109/ICACCE.2018.8441757.
3. Haider, Zeeshan, Riaz Hussain, Irfan Latif Khan, **Atif Shakeel**, Bilal Ijaz, and Shahzad A. Malik. "Evaluation of capabilities of open-source cognitive radio network simulators." In 2017 13th IWCMC, pp. 1814-1817. IEEE, 2017.
4. S. Agha, F. Ullah Jan, D. Sabir, K. Saleem, U. Gulzari and **A. Shakeel**, "Optimal motion estimation using reduced bits and its low power VLSI implementation," 2017 IEEE International Conference on Signal and Image Processing Applications (ICSIPA), Kuching, Malaysia, 2017, pp. 273-278, doi: 10.1109/ICSIPA.2017.8120620.
5. K. Ahmed, B. Ijaz, I. L. Khan, **A. Shakeel** and R. Hussain, "Improved handover triggering estimation for end-to-end vertical handover schemes," 2016 6th International Conference on Information Communication and Management (ICICM), Hatfield, UK, 2016, pp. 183-186, doi: 10.1109/INFOCOMAN.2016.7784239.