

OMER ALI

Electrical Engineer | Academic Researcher |
Computer Networks, Server administration, WSN, IoT Specialist



🏠 Dept. of Electrical Engineering, NFC IET Multan, Pakistan.

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EXECUTIVE SUMMARY

Insightful, accomplished Systems Engineer with proven skill set to flourish in Electrical Engineering and ICT domain. I am keen on applying my Industrial Knowledge, research acumen and academic expertise to enhance the quality research and cutting-edge IT business practices.

KEY CAREER MILESTONES

Chief Architect	Served as DevOps team lead and Chief architect in designing Campus Management System for NFC IET Multan .
Unified Networking	Deployed a university-wide virtualization-based solution for NFC IET Multan , saving over \$20K+ overall.
Admissions	Currently managing Undergraduate & Postgraduate admissions for NFC IET
Scholarship	Higher Education Commission (HEC) Pakistan Scholarship for Doctoral program

KEY PROFICIENCIES

Microsoft	Server 2020, System Center 2020, MS SQL
Cloud Service	Google apps for business, Office 365
Network	Cisco Routers & Switches, ASA, Wireless Controller, PRIME, Fortinet
Architecture	Cisco Unified Computing, Microsoft Azure, Amazon Cloud
Development	ASP.NET, Java, C#, VB.NET, C++, MATLAB, R, Python
CyberOps	Kali Linux, SecOnion, WireShark, Snort
Automation	RunDeck, CHEF
IoT Platforms	Microsoft Azure, IBM Watson, Kaa, ThingsSquare
AI & ML	Regression, Image recognition, predictive analysis

EDUCATION



- PhD Electrical Engineering **UNIVERSITI SAINS MALAYSIA** 2022
- MSc Communications Engineering **THE UNIVERSITY OF MANCHESTER** 2008
- BSc Computer Systems Engineering **NFC IET MULTAN** 2006

EXPERIENCE



ASSISTANT PROFESSOR

Oct 2017 - Present



NFC IET MULTAN, PAKISTAN

I am involved in **research, teaching, quality assurance** and **skills development**. My primary roles included teaching core Electrical Engineering courses, collaboration with industry for research projects, leading **continuous quality improvement (CQI)** cell, as well as managing **outcome based education (OBE)** in the department.

LECTURER

Dec 2010 - Oct 2017



NFC IET MULTAN, PAKISTAN

My primary duties involved research, and teaching of core Electrical Engineering courses including **Computer Communications Networks, Digital Logic Design, Wireless & Advanced Communications, and Object Oriented Programming**. Additional duties involved to build up a Communications research group and establish IoT lab. In addition, to undertake administrative duties including Final Year Undergraduate Project convener.

IT MANAGER

Dec 2014 - Dec 2016



NFC IET MULTAN, PAKISTAN

During this tenure, I **designed, deployed** and **optimized** Fibre optical based University-wide backbone network. Furthermore, **Cisco Wireless Umbrella Network** was designed and deployed for the university. I was also involved in architecting the University Campus Management System. Other job roles included **management, control, and evaluation** of IT and data operations, management of IT staff, audit analysis and **security design** for data network.

PROFESSIONAL CERTIFICATION / AFFILIATIONS



Cisco Certified Internetwork Expert - CCIE (Data Center)	Written
Cisco Certified Network Associate - CCNA (Routing & Switching)	CSCO12474534
Cisco Certified Network Associate - CCNA (CyberOps)	CSCO12474534
Microsoft Certified Solutions Expert - MCSE (Server Infrastructure)	F293-6922
Microsoft Certified Solutions Expert - MCSE (Cloud & Infrastructure)	F811-6152
Microsoft Certified Solutions Associate - MCSA (Server Infrastructure)	E958-9956
Microsoft Certified Specialist - Hyper-V and Virtualization	E717-5875
Microsoft Certified Trainer - MCT (Server Infrastructure)	F357-9102
Microsoft Certified Educator - MCE (Digital Literacy)	F723-2890
Microsoft Technology Associate - MTA (Networking Fundamentals)	F701-3009
Microsoft Technology Associate - MTA (Cloud Fundamentals)	F705-4171
Microsoft Office Specialist - MOS (MS Word 2013)	P7R6-uGob
SolarWinds Certified Professional - SCP	SCP3324
Palo Alto Networks, Accredited Configuration Engineer - ACE	Palo Alto
Certified Secure Computer User - CSCU	ECC40673336681
International Association of Microsoft Certified Trainers	IAMCT

PEER- REVIEW



- Reviewer for IoT, ML, WSN, and Power Electronics
IEEE ACCESS ISSN: 2169-3536
- Reviewer for IoT, ML, WSN, and Computer architecture
COMPUTER & ELECTRICAL ENGINEERING ISSN: 0045-7906
- Reviewer for IoT, ML, WSN, IIoT, and NextGen Networks
COMPUTERS, MATERIALS & CONTINUA ISSN: 1546-2226

RESEARCH PROFILE

Journals:

1. Ali Omer, Mohamad Khairi Ishak, Ashraf Bani Ahmad, Mohd Fadzli Mohd Salleh, Chia Ai Ooi, Muhammad Firdaus Akbar Jalaludin Khan, and Imran Khan, "On-line WSN SoC estimation using Gaussian Process Regression: An Adaptive Machine Learning approach", Alexandria Engineering Journal, 61(12), 9831-9848. (Impact Factor: **3.732**)
2. Ali, O., Ishak, M. K., Ooi, C. A., & Bhatti, M. K. L. (2022). Battery characterization for wireless sensor network applications to investigate the effect of load on surface temperatures. Royal Society open science, 9(2), 210870. (Impact Factor: **2.963**)
3. Ali, O., Ishak, M. K., Bhatti, M. K. L., Khan, I., & Kim, K. I. (2022). A Comprehensive Review of Internet of Things: Technology Stack, Middlewares, and Fog/Edge Computing Interface. Sensors, 22(3), 995. (Impact Factor: **3.576**)
4. Ali, O., & Ishak, M. K. (2021). Energy Efficient Scheme for Wireless Sensor Networks based on CONTIKIMAC Protocol. Journal of Engineering Science and Technology, 16(6), 4666-4686.
5. Omer, A., Khairi, M., & Ishak, M. K. L. (2022). A Machine Learning Approach for Early COVID-19 Symptoms Identification. Computers, Materials, & Continua, 3803-3820. (Impact Factor: **3.772**)
6. Ali, O., Ishak, M. K., & Bhatti, M. K. L. (2021). Emerging IoT domains, current standings, and open research challenges: a review. PeerJ Computer Science, 7, e659. (Impact Factor: **1.392**)
7. Ali, O., Ishak, M. K., & Bhatti, M. K. L. (2021). Early COVID-19 symptoms identification using hybrid unsupervised machine learning techniques. Computers, Materials and Continua, 747-766. (Impact Factor: **3.772**)
8. Ali, O., Ishak, M. K., & Bhatti, M. K. L. (2021). Adaptive clear channel assessment (A-CCA): energy efficient method to improve wireless sensor networks (WSNs) operations. AEU-International Journal of Electronics and Communications, 131, 153603. (Impact Factor: **3.183**)

Conference Proceedings:

1. Ali, O., Ishak, M. K., & Bhatti, M. K. L. (2021). Internet of things security: Modelling smart industrial thermostat for threat vectors and common vulnerabilities. In Intelligent Manufacturing and Mechatronics (pp. 175-186). Springer, Singapore.
2. Ali, O., & Ishak, M. K. (2020, April). Bringing intelligence to IoT edge: Machine learning based smart city image classification using Microsoft azure IoT and custom vision. In Journal of Physics: Conference Series (Vol. 1529, No. 4, p. 042076). IOP Publishing.

Conference Articles:

1. Omer Ali, Mohamad Khairi Ishak, Furqan Memon, and Mohd Shahrime Mohd Asaari, "Estimation of Battery State-of-Charge using Feedforward Neural Networks", ECTICON 2022, Thailand (Accepted)
2. Zainatul, Khair Ishak, Lukman, and Ali Omer, "Elliptic Curve Cryptography based Security on MQTT System for Smart Home Application", ECTICON 2022, Thailand (Accepted)
3. Ali, O., Ishak, M. K., Zawawi, M. A. M., Seman, M. T. A., Bhatti, M. K. L., & Yusoff, Z. Y. M. (2020, June). A MAC protocol for energy efficient wireless communication leveraging wake-up estimations on sender data. In 2020 17th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications, and Information Technology (ECTI-CON) (pp. 45-50). IEEE.

REFERENCES

AWARDS



Dr. Mohamad Khairi Ishak

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Universiti Sains Malaysia
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Dr. Muhammad Kamran Liaquat

Associate Professor
NFC IET Multan, Pakistan
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PHD SUPERVISOR

Primary PhD supervisor and team lead for WSN and IoT research lab at Universiti Sains Malaysia.

DEPARTMENT HEAD

Primary team lead and department head at Electrical Engineering department, NFC IET Multan, Pakistan.

SCHOLARSHIPS

Universiti Sains Malaysia Research Scholarship for Doctoral Students (RU: 8014049)
HEC PhD Partial Scholarship 2021-22

BEST PRESENTER

2019 3MT Winner - USM Engineering Campus
2021 3MT 3rd position - USM Engineering Campus
Best paper award - ICISE 2020, Kelantan, Malaysia.