



## PROF. GHASSAN SAMARA

Email: [gsamara@zu.edu.jo](mailto:gsamara@zu.edu.jo)

Computer Science

### Academic Rank: Professor

### Membership:

|   |             |
|---|-------------|
| 1 | IEEE Member |
| 2 |             |
| 3 |             |

### Qualifications:

|   |                                                 |
|---|-------------------------------------------------|
| 1 | Ph.D (Doctor of Philosophy) – Computer Networks |
| 2 | Master of Computer Science.                     |
| 3 | Bachelor of Computer Science.                   |



## Teaching Experience:

| # | From       | to         | Job description                                                                                                                                                                     |
|---|------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 05-03-2025 | Now        | Professor<br>Department of Computer Science (CS)<br>Faculty of Information Technology<br>Zarqa University<br>Jordan                                                                 |
| 2 | 02-09-2022 | 02-09-2025 | Vice Dean of the Faculty of Information Technology<br>Associate Professor<br>Department of Computer Science (CS)<br>Faculty of Information Technology<br>Zarqa University<br>Jordan |
| 3 | 02-09-2019 | 02-09-2022 | Head of Computer Science Department<br>Associate Professor<br>Department of Computer Science (CS)<br>Faculty of Information Technology<br>Zarqa University<br>Jordan                |
|   | 002-9-2015 | 01-09-2019 | Head of Internet Technology Department<br>Assistant Professor<br>Department of Internet Technology<br>Faculty of Information Technology<br>Zarqa University<br>Jordan               |
|   | 02-9-2012  | 01-09-2015 | Assistant Professor<br>Department of Computer Science (CS)<br>Faculty of Information Technology<br>Zarqa University<br>Jordan                                                       |



## Publications:

| #  | Title                                                                                                                          | Publisher                                                             | Year/ Issue (Vol/No)     |
|----|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------|
| .1 | Agile Proactive Cybercrime Evidence Analysis Model for Digital Forensics.                                                      | International Arab Journal of Information Technology (IAJIT).         | 22(3). 2025              |
| .2 | Optimized Soft-Voting CNN Ensemble Using Particle Swarm Optimization for Endometrial Cancer Histopathology Classification.     | <i>Computer Methods and Programs in Biomedicine Update.</i>           | 100217. 2025             |
| .3 | Secure Routing in VANET Systems Using Fog Computing and Software Defined Networks.                                             | <i>Int. J. Advance Soft Compu. Appl.</i>                              | 17(2). 2025              |
| .4 | Arabic sentiment analysis of Monkeypox using deep neural network and optimized hyperparameters of machine learning algorithms. | <i>Social Network Analysis and Mining.</i>                            | 14(1), pp.1-18. 2025     |
| .5 | Arabic fake news detection using hybrid contextual features.                                                                   | <i>International Journal of Electrical &amp; Computer Engineering</i> | (2088-8708), 15(1). 2025 |
| .6 | A Novel Scheme to Optimize LSB Steganography Based on a Logistic Chaotic Map and Genetic Algorithm.                            | <i>Iraqi Journal for Computer Science and Mathematics.</i>            | 6(2), 24. 2025           |
| .7 | Protecting Data in the 5G Era: A Critical Review of Cryptographic Techniques for Mobile Cloud Computing. Cryptography,         | Biometrics, and Anonymity in Cybersecurity Management.                | 113-126, 2025            |
| .8 | Prediction of Landslides Using Data Mining Techniques.                                                                         | <i>Appl. Math.</i>                                                    | 19(2), 437-447. 2025     |
| .9 | Advancements and Challenges in the Internet of Drones Security Issues: A Comprehensive Review.                                 | <i>Machine Intelligence Applications in Cyber-Risk Management.</i>    | 1-24, 2025               |



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|------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>.10</b> | Quantifying the Managerial and Practical Benefits of Cloud Computing on Information Security in Higher Education Institutions. | <i>Appl. Math</i>                                                                                                                                                                                                       | 19(1), 15-24.<br>(2025).  |
| <b>.11</b> | Leveraging Artificial Intelligence for Sustainable Cloud Computing: Transitioning from Physical to Virtual Machines.           | <i>Appl. Math</i>                                                                                                                                                                                                       | 19(1), 141-148 و<br>2025  |
| <b>.12</b> | An Algorithm for Arabic Semantic Matching Using New WordNet Tree.                                                              | <i>Frontiers of Human<br/>Centricity in the Artificial<br/>Intelligence-Driven Society<br/>5.0</i> (pp. 1331-1341).<br>Springer Nature<br>Switzerland.                                                                  | 2025                      |
| <b>.13</b> | Enhancing IoT device security: CNN-SVM hybrid approach for real-time detection of DoS and DDoS attacks.                        | <i>Journal of Intelligent<br/>Systems,</i>                                                                                                                                                                              | 33(1),<br>20230150,2024 . |
| <b>.14</b> | Improving timetable quality through multi-objective optimization: A case study on post-enrolment course scheduling.            | <i>In Business Analytical<br/>Capabilities and Artificial<br/>Intelligence-enabled<br/>Analytics: Applications and<br/>Challenges in the Digital<br/>Era, Volume 2</i> (pp. 95-106).<br>Springer Nature<br>Switzerland. | 2024                      |
| <b>.15</b> | Enhanced magnetic resonance imaging-based brain tumor classification with a hybrid Swin Transformer and ResNet50V2 model.      | <i>Applied Sciences</i>                                                                                                                                                                                                 | 2024                      |
| <b>.16</b> | A particle swarm optimizer-based optimization approach for locating electric vehicles charging stations in smart cities.       | <i>International Journal of<br/>Hydrogen Energy</i>                                                                                                                                                                     | 2024                      |



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|------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>.17</b> | Green communication in iot for enabling next-generation wireless systems.                                                        | <i>Computers</i>                                                                                                                | 13, no. 10<br>(2024): 251. |
| <b>.18</b> | Enhanced Machine Learning Based Network Traffic Detection Model for IoT Network.                                                 | <i>International Journal of Interactive Mobile Technologies</i>                                                                 | 2024                       |
| <b>.19</b> | Optimizing Performance in Wireless Sensor Networks through a Multi-Objective Rendezvous Points Selection Algorithm.              | <i>International Journal of Interactive Mobile Technologies</i>                                                                 | 2024                       |
| <b>.20</b> | An assessment of obfuscated bad rabbit ransomware detection and prevention methods                                               | <i>Artificial Intelligence and Economic Sustainability in the Era of Industrial Revolution 5.0</i> Springer Nature Switzerland. | 2024                       |
| <b>.21</b> | Intelligent Edge: The Intersection of Artificial Intelligence and Digital Communication—A Survey.                                | <i>Artificial Intelligence and Economic Sustainability in the Era of Industrial Revolution 5.0</i> Springer Nature Switzerland. | 2024                       |
| <b>.22</b> | Exploring the effectiveness of different embedding methods for toxicity classification.                                          | <i>Artificial Intelligence and Economic Sustainability in the Era of Industrial Revolution 5.0</i> Springer Nature Switzerland. | 2024                       |
| <b>.23</b> | AFARM: Anxiety-Free Autonomous Routing Model for Electric Vehicles with Dynamic Route Preferences.                               | <i>International Journal of Interactive Mobile Technologies</i>                                                                 | 2024                       |
| <b>.24</b> | Arabic Sentiment Analysis for ChatGPT Using Machine Learning Classification Algorithms: A Hyperparameter Optimization Technique. | <i>ACM Transactions on Asian and Low-Resource Language Information Processing</i>                                               | 2024                       |



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|-----|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|------|
| .25 | Diagnosing diabetes mellitus using machine learning techniques.                                                                 | <i>International Journal of Data and Network Science</i>            | 2024 |
| .26 | Website phishing detection using machine learning techniques.                                                                   | <i>Journal of Statistics Applications &amp; Probability</i>         | 2024 |
| .27 | Potential of Machine Learning for Predicting Sleep Disorders: A Comprehensive Analysis of Regression and Classification Models. | <i>Diagnostics</i>                                                  | 2023 |
| .28 | A comprehensive review of machine learning-based intrusion detection techniques for IoT networks.                               | <i>Artificial Intelligence, Internet of Things, and Society 5.0</i> | 2023 |
| .29 | Machine Learning-Based Detection of Smartphone Malware: Challenges and Solutions.                                               | <i>Mesopotamian Journal of CyberSecurity</i>                        | 2023 |
| .30 | Maximizing test coverage for security threats using optimal test data generation.                                               | <i>Applied Sciences</i>                                             | 2023 |
| .31 | Multi-Label Classification Based on Associations.                                                                               | <i>Applied Sciences</i>                                             | 2023 |
| .32 | The Recognition of Holy Qur'an Reciters Using the MFCCs' Technique and Deep Learning.                                           | <i>Advances in Multimedia</i>                                       | 2023 |
| .33 | Using Security Centre in Indoor Internet of Things.                                                                             | <i>International Journal for Quality Assurance</i>                  | 2023 |
| .34 | An Intelligent Decision Support System Based on Multi Agent Systems for Business Classification Problem.                        | <i>Sustainability</i>                                               | 2023 |



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|-----|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|
| .35 | Data Collection in WSNs using a Probability-Based Rendezvous Points Selection Algorithm. | <i>challenge</i>                                                                    | 2022 |
| .36 | IoT Forensic Frameworks (DFIF, IoTDOTS, FSAIoT): A Comprehensive Study                   | <i>International Journal of Advances in Soft Computing</i>                          | 2022 |
| .37 | Energy Balancing Algorithm For Wireless Sensor Network.                                  | <i>Journal Of Theoretical And Applied Information Technology</i>                    | 2022 |
| .38 | Lane prediction optimization in VANET.                                                   | <i>Egyptian Informatics Journal</i>                                                 | 2021 |
| .39 | An Intelligent Vice Cluster Head Election Protocol in WSN                                | <i>International Journal of Advances in Soft Computing</i>                          | 2021 |
| .40 | Early detection of skin cancer using deep learning approach.                             | <i>Elementary Education Online</i>                                                  | 2021 |
| .41 | Intelligent reputation system for safety messages in VANET                               | <i>IAES International Journal of Artificial Intelligence</i>                        | 2020 |
| .42 | Optimal Number of Cluster Heads in Wireless Sensors Networks Based on LEACH              | <i>International Journal of Advanced Trends in Computer Science and Engineering</i> | 2020 |
| .43 | Energy-Efficiency Routing algorithms in Wireless Sensor Networks: a Survey               | <i>International Journal Of Scientific &amp; Technology Research</i>                | 2019 |
| .44 | An Improved CF-MAC Protocol for VANET                                                    | <i>the International Journal of Electrical and Computer Engineering</i>             | 2019 |



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|-----|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------|
| .45 | Efficient Energy, Cost Reduction, and QoS based routing protocol for Wireless Sensor Networks | <i>the International Journal of Electrical and Computer Engineering</i>   | 2019 |
| .46 | Aware-Routing Protocol using Best First Search Algorithm in Wireless Sensor                   | <i>The International Arab Journal of Information Technology</i>           | 2018 |
| .47 | An Efficient Collision Free Protocol for VANET                                                | <i>International Journal of Computer Applications</i>                     | 2018 |
| .48 | An Intelligent Routing Protocol in VANET                                                      | <i>the International Journal of Ad Hoc and Ubiquitous Computing</i>       | 2018 |
| .49 | Low Cost ZigBee Sensor Network Architecture for Indoor Air Quality Monitoring                 | <i>International Journal of Computer Science and Information Security</i> | 2017 |
| .50 | A Practical Approach for Detecting Logical Error in Object Oriented Environment,              | <i>World of Computer Science and Information Technology Journal</i>       | 2017 |
| .51 | Mobile Station-Controlled Handover Scheme in Mobile WiMAX: Case Study                         | <i>International Journal of Computer Applications</i>                     | 2015 |
| .52 | Coordinator Location Effects in AODV Routing Protocol in ZigBee Mesh Network                  | <i>International Journal of Computer Applications</i>                     | 2015 |
| .53 | Congestion Control Approach based on Effective Random Early Detection and Fuzzy Logic         | <i>MAGNT Research Report</i>                                              | 2015 |



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|-----|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------|
| .54 | Mathematical Modeling and Analysis of ZigBee Node Battery Characteristics and Operation               | <i>MAGNT Research Report</i>                                            | 2015 |
| .55 | The Development of Wireless Communication Systems from Zero Generation to Fifth Generation - A survey | <i>International Journal of Sciences &amp; Applied Research</i>         | 2015 |
| .56 | Improved Routing Performance in Sensor Networks Using Virtual Coordinates (Survey)                    | <i>International Journal of Sciences &amp; Applied Research</i>         | 2015 |
| .57 | TCP and UDP QoS Characteristics on Multiple Mobile Wireless LAN                                       | <i>International Journal of Sciences &amp; Applied Research</i>         | 2015 |
| .58 | Security Issues in Vehicular Ad Hoc Networks (VANET): a survey                                        | <i>International Journal of Sciences &amp; Applied Research</i>         | 2015 |
| .59 | Deploying an Efficient Safety System for VANET                                                        | <i>The World of Computer Science and Information Technology Journal</i> | 2015 |
| .60 | New Strategy for Cache Replacement in Manets                                                          | <i>Global Journal of Advanced Research</i>                              | 2015 |
| .61 | Intelligent Emergency Message Broadcasting in VANET Using PSO                                         | <i>The World of Computer Science and Information Technology Journal</i> | 2014 |
| .62 | Performance Analysis of Dynamic Source Routing Protocol                                               | <i>Journal of Emerging Trends in Computing and Information Sciences</i> |      |



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|-----|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|
| .63 | Power Control Protocols in VANET                                                    | <i>European Journal of Scientific Research</i>                       | 2013 |
| .64 | Dynamic Safety Message Power Control in VANET Using PSO                             | <i>World of Computer Science and Information Technology Journal</i>  | 2013 |
| .65 | A Prototype Navigation System for Guiding Blind People Indoors using NXT Mindstorms | <i>International Journal of Online Engineering</i>                   | 2013 |
| .66 | Survey on security challenges in VANET                                              | <i>International Journal of Computer Science and Network</i>         | 2013 |
| .67 | An Indoor Fingerprinting Localization Approach for ZigBee Wireless Sensor Networks  | <i>European Journal of Scientific Research</i>                       | 2013 |
| .68 | Certificate Revocation Management in VANET                                          | <i>International Journal of Cyber-Security and Digital Forensics</i> | 2012 |
| .69 | Message Broadcasting Protocols in VANET                                             | <i>Information Technology Journal</i>                                | 2012 |
| .70 | Increase Emergency Message Reception in VANET                                       | <i>Journal of Applied Sciences</i>                                   | 2011 |
| .71 | Increasing Network Visibility Using Coded Repetition Beacon Piggybacking            | <i>World Applied Sciences Journal</i>                                | 2010 |
| .72 | Safety Message Power Transmission Control for VANET                                 | <i>Journal of Computer Science</i>                                   | 2010 |



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|-----|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------|
| .73 | A broadcast scheme in dense VANETs                                                    | <i>Journal of Applied Sciences</i>                                        | 2010 |
| .74 | Design of Simple and Efficient Revocation List Distribution in Urban areas for VANETs | <i>International Journal of Computer Science and Information Security</i> | 2010 |

**Books:**

| #  | Book Title | Publisher | Year |
|----|------------|-----------|------|
| .1 |            |           |      |
| .2 |            |           |      |
| .3 |            |           |      |
| .4 |            |           |      |
| .5 |            |           |      |

**Translated Books:**

| #  | Book Title | Publisher | Year |
|----|------------|-----------|------|
| .1 |            |           |      |

**Articles:**

| #  | Article Title | Publisher | Year |
|----|---------------|-----------|------|
| .1 |               |           |      |



## Conferences:

| #  | Paper Title                                                                    | Organizing Institution | Conference                                                               |
|----|--------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------|
| .1 | Alarm System at street junctions (ASSJ) to avoid accidents Using VANET         | IEEE                   | 2021 Global Congress on Electrical Engineering (GC-ElecEng)              |
| .2 | General Countermeasures of Anti-Forensics Categories                           | IEEE                   | 2021 Global Congress on Electrical Engineering (GC-ElecEng)              |
| .3 | Internet of Things Protection and Encryption: A Survey                         | IEEE                   | 2021 22nd International Arab Conference on Information Technology (ACIT) |
| .4 | Internet of Robotic Things: Current Technologies and Applications              | IEEE                   | 2021 22nd International Arab Conference on Information Technology (ACIT) |
| .5 | Scheduling UET-UCT DAGs of Depth Two on Two Processors                         | IEEE                   | 2021 22nd International Arab Conference on Information Technology (ACIT) |
| .6 | Encryption for End-User Privacy: A Cyber-Secure Smart Energy Management System | IEEE                   | 2021 22nd International Arab Conference on Information Technology (ACIT) |



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| <b>.7</b>  | Improving VANET's Performance by Incorporated Fog-Cloud Layer (FCL).                 | IEEE | 2021 22nd International Arab Conference on Information Technology (ACIT)            |
| <b>.8</b>  | Wireless Sensor Network MAC Energy-efficiency Protocols: A Survey                    | IEEE | 2020 21st International Arab Conference on Information Technology (ACIT)            |
| <b>.9</b>  | Aware-Routing Protocol using Best First Search Algorithm in Wireless Sensor Networks | IEEE | The 18th International Arab Conference on Information Technology (ACIT'2017)        |
| <b>.10</b> | Wireless Sensor Networks Hierarchical Protocols                                      | IEEE | The 8th International Conference on Information Technology (ICIT 2017).             |
| <b>.11</b> | Applying ontological modeling on Quranic" nature" domain                             | IEEE | 2016 7th International Conference on Information and Communication Systems (ICICS)  |
| <b>.12</b> | Application Layer Protocols to Protect Electronic Mail from Security Threads         | IEEE | Proceeding of The 7th International Conference on Information Technology, ICIT 2015 |
| <b>.13</b> | Impact of Node Clustering on Power Consumption in WSN, A Comparative Study           | IEEE | Proceeding of The 7th International Conference on Information Technology, ICIT 2015 |



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|------------|---------------------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------|
| <b>.14</b> | A New Security Mechanism for Vehicular Communication Networks | IEEE | <i>Proceeding of the International Conference on Cyber Security, CyberWarfare and Digital Forensic (CyberSec2012)</i>  |
| <b>.15</b> | Security Analysis of Vehicular Ad Hoc Networks (VANET)        | IEEE | <i>Proceeding of the 2nd International Conference on Network Applications (NETAPPS'10)</i>                             |
| <b>.16</b> | Security Issues and Challenges of Vehicular Ad Hoc Network    | IEEE | <i>Proceeding of 4th International Conference on New Trends in Information Science and Service Science (NISS 2010)</i> |
| <b>.17</b> | Efficient Certificate Management in VANET                     | IEEE | <i>Proceeding of the 2nd International Conference on Future Computer and Communication (ICFCC 2010),</i>               |



## Supervision of Thesis:

| #  | Year | University       | Thesis Title                                                                                                                                        | Student Name       |
|----|------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| .1 | 2016 | Zarqa University | <a href="#">Congestion Control Approach based on Effective Random Early Detection and Fuzzy Logic.</a>                                              | Maimuna Khatary,   |
| .2 | 2018 | Zarqa University | <a href="#">Enhancing Wireless Sensor Networks Performance Using Intelligent Routing.</a>                                                           | Mohammad Khawaldeh |
| .3 | 2017 | Zarqa University | <a href="#">An Intelligent Energy Efficiency Clustering LEACH Algorithm</a>                                                                         | Munier Okor        |
| .4 | 2016 | Zarqa University | <a href="#">Power Sensitive Routing Algorithm for ZigBee Wireless Networks.</a>                                                                     | Abla Suliman       |
| .5 | 2016 | Zarqa University | <a href="#">Handover Enhancement for Mobile WiMAX Based on Mobile Movement and Base Stations Communications.</a>                                    | Emran Saleh        |
| .6 | 2021 | Zarqa University | <a href="#">An Intelligent Vice Cluster Head Election Algorithm and Clustering System for Optimizing Network Life and Improving Wireless Sensor</a> | Yahya Zayed,       |



|  |  |  |                                      |  |
|--|--|--|--------------------------------------|--|
|  |  |  | <a href="#">Network Performance,</a> |  |
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**Community Service Activities**

| # | Duartion | Activity |
|---|----------|----------|
| 1 |          |          |
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**Personal Information**

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|-------------------------|-----------------|-------------------|
| Name                    | Ghassan Samara  |                   |
| Place and Date of Birth | Amman-Jordan    |                   |
| Nationality             | Jordanian       |                   |
| Marital Status          | Married         |                   |
| Address                 | Amman-Jordan    |                   |
| Work Tel No.            | 053821100       | Sub: 1820         |
| Mobile:                 |                 |                   |
| Postal Address          | P.O. Box: 13132 | JordanZarqa 13132 |