Yousef Kilani

Brief Bio

Yousef Kilani received his PhD in Computer Science from the University of Kebangsaan Malaysia (UKM) (UKM is ranked 126th globally in the QS World University Rankings 2026), in 2007, MSc in Computer Science from the University of Science Malaysia (USM) (is ranked 134th globally in the QS World University Rankings 2026), in 1997, and bachelor's degree in Computer Science from Yarmouk University (YU) (YU is ranked #851-900 in QS World University Rankings 2026.) , Jordan, in 1994. He is currently a Professor at the Department of Computer Information Systems at Hashemite University, Zarqa, Jordan. His research interests include artificial intelligence, web intelligence, network security, machine learning and real time multimedia communication over the internet. He has published more than 40 research papers in well-respected Journals and conferences. Kilani is an external and internal examiner for many master and Ph.D. students and associate and full professor applications, supervising many master students, and evaluator for many computer science programs in different universities in Jordan. Kilani loves teaching, researching, working in teams in a project, a committee, etc. and love communicating with others.

Google Scholar: https://scholar.google.com/citations?user=aGzf4QgAAAAJ&hl=en
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ieeexplore : https://ieeexplore.ieee.org/author/37085864684
dblp: https://dblp.org/pid/12/686.html
linkedin: https://www.linkedin.com/in/yousef-kilani-57055168/?originalSubdomain=jo

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Personal Details:

Name   : Yousef Moh'd Ahmad kilani.
Nationality   : Jordanian.
Date Of Birth   **:** 22th March. 1972.
Place of Birth   : Judiata- Irbid-Jordan.
Religion   : Islam
Language   : Arabic, English,   Bahasa Malaysia (Basic level).

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Research Gate: https://www.researchgate.net/profile/Yousef-Kilani/research
ieeexplore : https://ieeexplore.ieee.org/author/37085864684
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linkedin: https://www.linkedin.com/in/yousef-kilani-57055168/?originalSubdomain=jo
Hashemite University: https://staff.hu.edu.jo/Published_Researchs.aspx?id=CjR/DtbGTeY=

Research Interest:

My research interests include: AI, local search algorithms, web intelligence (in particular, the recommender systems), Computer Security.

Education History:

- **Ph.D. in Computer Science** (Universiti Kebangsaan Malaysia, 2004-2007) **(**Faculty of Information technology, Universiti Kebangsaan Malaysia). I have done my Ph.D. degree by research in *the field of Artificial intelligence-local search algorithms.* The title of my Ph.D. thesis is:

    "Speeding up local search by using the island confinement method"

- **MSc. in Computer Science** (University of Science Malaysia 1995- 1997)), Faculty of Computer Science, University of Science Malaysia: I have done my master degree by research in the field of *Scheduling and genetic algorithms.* The title of my Master thesis is:

    "Application of Genetic Algorithms in Optimization the Distribution of Examinations in an Examination Scheduling Problem"

- **University Education** (1990-1994): Bachelor of Science Majoring in Computer Science from Computer Science Department, Yarmouk University- Jordan.

- Pre-University: Judiata Secondary School - Jordan (Sep. 1989 - Aug.1990). GPA: 84.6%

Publications:

1. Almaayah, M., **Kilani, Y**., Alsarhan, A., Aljaidi, M., Alshammari, M,. Alshammari, A., A Genetic-Algorithms Matrix-Factorization-Based Recommender System Model Using Tags. IEEE Access, Volume 13: 59458 - 59468, 2025.

2. Al-shanableh, N., Alzyoud, M., Alomar, S., **Kilani, Y.**, and Nashnush, E., Al-hawary, S., Al-momani, A. The adoption of big data analytics in Jordanian SMEs: An extended technology organization environment framework with diffusion of innovation and perceived usefulness. International Journal of Data and Network Science 8(2):753-764, 2024.

3. **Kilani, Y.,** Sullai, M. and Alsarhan, A. Item-Based Versus User-Based Genetic Algorithms and Matrix Factorization Recommender Systems. The International Conference on Intelligent Computing, Communication, Networking and Services (ICCNS2023) June19-22, 2023 – Valencia , Spain. HTTPS://INTELLIGENTTECH.ORG/ICCNS2023/WORKSHOPS.PHP

4. Idhaim, H., **Kilani**, Y., Alsarhan, A. , Aljaidi, A. , Altaweel, A., Bouridane, A., Aldweesh, A. Improving Recommender Systems by a Further Factorization of the Factor Matrices. IEEE access, Vol. 11, 2023.

5. **Kilani, Y.** Alhijawi, B., Alsarhan, A. Using Artificial intelligence Techniques in Collaborative Filtering Recommender Systems: Survey. International Journal of advanced intelligence paradigms, Vol. 11, No. 3/4, pp. 378-396, 2018.

6. **Kilani, Y.,** Otoom, A.F, Alsarhan, A. and Almaayah, M. A genetic algorithms-based hybrid recommender system of matrix factorization and neighborhood-based techniques. Journal of Computational Science, pp. 78-93, Vol 28, 2018. Impact Factor 3.976

7. Alsarhan, A., Almalkawi, I. and **Kilani, Y.,** A New Covid-19 Tracing Approach using Machine Learning and Drones Enabled Wireless Network. International Journal of Interactive Mobile Technologies (iJIM) 15(22):111, 2021.

8. Alhijawi, B. and **Kilani, Y.** A collaborative filtering recommender system using genetic algorithm .International journal of information processing & management. Vol. 57, No. 6, PP: 102-310, November 2020. (date-of-access 13-6-2020 (Impact Factor: 4.787, 5-Year Impact Factor: 4.278)).

9. Alhijawi, B. and **Kilani, Y.** The recommender system: a survey. International Journal of Advanced Intelligence Paradigms, Vol. 15, No. 3, pp: 229-251, 2020.

10. Alsarhan, A., **Kilani**, Y., Al-Dubai, A.Y., Zomaya, A.Y., and Hussain, A. Novel Fuzzy and Game Theory Based Clustering and Decision Making for VANETs, IEEE Transaction in Vehicular Technology, PP: 1568-1581, Vo. 69, No. 2, 2020.

11. Alsarhan, A., Quttoum, A., **Kilani, Y**. Optimizing spectrum sharing in wireless Mesh Network Using Cognitive Technology. Wireless Personal Communications, Vol. 96, No. 2, pp: 1887-1905, 2017.

12. Bsoul, M., **Kilani, Y.**, Hammad, M., Abdallah, E.E., Alsarhan, A.: An Index-Based Approach for Wireless Sensor Networks. Wireless Personal Communications Vol. 82, No. 4, pp. 2185-2197 (2015).

13. Alsarhan, Y., Al-Sarayreh, K. A. Al-Ghuwairi, A., **Kilani, Y.**: Resource trading in cloud environments for profit maximisation using an auction model. International Journal of advanced intelligence paradigms Vol. 6, No. 3, pp. 176-190, 2014.

14. Otoom, A.F., Abdallah, E.E., **Kilani**, Y., Kefaye, A. and Ashour, M. Effective diagnosis and monitoring of heart disease, *International Journal of Software Engineering and its Applications*., pp. 143-156, Vol. 9, No. 1, 2015.

15. Alhijawi, B. and **Kilani, Y.** The Recommender System: A Survey. International Journal of advanced intelligence paradigms, Forthcoming.

16. Alhijawi, B. and **Kilani, Y.** and Alsarhan, Y., Improving Recommendation quality and performance of Genetic-Based Recommender System. International Journal of advanced intelligence paradigms, Vol. 15, No. 1, 2019.

17. **Kilani, Y.,** Alsarhan, A. *Bsoul, M., and El-Salhi, S.* Local Search-Based Recommender System for Computing the Similarity Matrix. International Journal of Intelligent Systems Technologies and Applications, PP: 391-404, Vol. 18, No. 4, 2019.

18. **Kilani, Y**., Bsoul, M., Obeidat, I. and Al-Rababaa, M. (2012) 'IslandSAT', *Int. J. Advanced Intelligence Paradigms*, Vol. 4, Nos. 3/4, pp.278–298.

19. Alsarhan, A., Agarwal, A., Obeidat, I., Bsoul, M., Al-Khasawneh, A. **Kilan**i. Y. Optimal Spectrum Utilization in Cognitive Network Using Combined Spectrum Sharing Approach: Overlay, Underlay and Trading. *International Journal of Business Information Systems*, pp: 423-454, Vol 12, No. 4, 2013. http://www.inderscience.com/info/inarticletoc.php?jcode=ijbis&year=2013&vol=

12&issue=4

20. Obeidat, I., Al-Khasawneh, A., Bsoul, M., **Kilani, Y.** Toward power consumption in wireless sensor networks routing technique. *International Journal of Networking and Virtual Organisations*, pp: 238-250, Vol. 12, No. 3, 2013.

21. Bsoul, M., Khasawneh, A., **Kilani, Y.** , Obeidat, I.   Enhanced fast spread replication strategy for data grid. *Journal of Network and Computer Applications*, Volume 34 Issue 2, pp. 575-580 , March, 2011 Academic Press Ltd. London, UK. http://www.journalogy.net/Publication/39333277/enhanced-fast-spread-replication-strategy-for-data-grid.

22. Bsoul, M.., Khasawneh, A., **Kilani, Y.** , Obeidat, I. A Threshold-based Dynamic Data Replication Strategy. *The Journal of Supercomputing* (12 August 2010)**.**,   vol. 53, no. 1, pp. 1-10. http://www.journalogy.net/Publication/15227213/a-threshold-based-dynamic-data-replication-strategy

24. **Kilani, Y.**. Improving GASAT by Replacing Tabu Search by DLM and Enhancing the Best Members. *Journal of Artificial Intelligence Review*. Elsevier Publisher, Volume 33, Issue 1-2 (February 2010), pages 41 - 59   http://portal.acm.org/citation.cfm?id=1713728

25. **Kilani, Y.**. Comparing the Performance of the Genetic and Local Search Algorithms for Solving the Satisfiability Problems, *Journal of Applied Soft Computing* Volume 10, Issue 1, January, 2010, Elsevier Publisher. Pages 198-207**.**

26. Fang, H., **Kilani**, Y., Lee, J.H.M. and Stuckey, P.J. The island confinement method for reducing search space in local search methods. Journal of Heuristics, Kluwer Academic Publishers, Volume 13, Number 6, 2007. http://www.springerlink.com/content/60265m5370tr8l93/fulltext.pdf

27. **Kilani, Y.** Speeding up the recommender systems by excluding the low rated items. ADVCOMP 2018 : The Twelfth International Conference on Advanced Engineering Computing and Applications in Sciences, Athens, Greece, pp. 24-27, 2018.

28. Alhijawi, B. and **Kilani, Y.** Using genetic algorithms for measuring the similarity values between users in collaborative filtering recommender systems. 15th IEEE/ACIS International Conference on Computer and Information Science, ICIS 2016, Okayama, Japan, June 26-29, 2016.

29. Alsarhan, A., Al-Dubai, A., **Kilani, Y.** , Alkhalidy, M., A new security approach for the spectrum access in vehicular Ad Hoc networks. The Thirteenth

International Conference on Digital Society and eGovernments, Athens, Greece, 2019.

30. Obeidat, I., Bsoul, M. Khasawneh A. **Kilani, Y.** "Enhancing the Connectedness in ad–hoc Mesh Networks Using the Terranet Technology" ICECECE 2012 : International Conference on Electrical, Computer, Electronics and Communication Engineering, Venice, Italy 2012

31. **Kilani, Y.,** Bsoul, M., Alsarahan, A., and obeidat, I. Improving PAWS by the island Confinement Method. 11th International Conference on Artificial Intelligence and Soft Computing, Zakopane, Poland, April 29-May, April 29 - May 3, 2012.

32. **Kilani, Y.** Enhancing GASAT by Using the Discrete Lagrangian-Multiplier Algorithm. International conference on Artificial Intelligence and Applications, Innsbruck, Austria, February 17 – 18, 2009.

33. (My Ph.D. thesis published by LAP LAMBERT Academic Publishing AG & Co. KG). **Kilani, Y.,** 2007. Speeding up local search By using the island confinement method. Ph.D. thesis, Department of Computer Science, University of Kebangsaan Malaysia, Malaysia, published by LAP LAMBERT Academic Publishing AG & Co. KG, Theodor-Heuss-Ring 26, 50668 Kln, Germany. It is available from www.amazon.com.

34. **Kilani**, Y., Alsarhan, A., Bsoul, M. and Otoom, A.F. Local Search Algorithms for Solving the Combinatorial Optimization and Constraint Satisfaction Problems. Book chapter in Soft Computing and Applications in the series of *Advances in Intelligent Systems and Computing*, Vol 356, 2015, pp. 199-211. http://link.springer.com/chapter/10.1007%2F978-3-319-18296-4_16

External and Internal Examiner (Master) for (example):

External/ internal examiner	University Name	Student Name	Thesis title	Year
External Examiner	AL-Albayt University	Ra'ed Thaib Awwad Al Harafsheh	Irregular strategy for sub-mesh Allocation strategy in 2D Mesh-connected Multicomputers	2016
External Examiner	AL-Albayt University	Kawther Zboon	Flame clustering and cuckoo search for build new intruder detection system	2017
Internal	Hashemite	Jehad Abu	Priority - Based	2017

Examiner	University	Dawood	Secondary Users over Cognitive Radio Networks	
Internal Examiner	Hashemite University	Omar Khawaldeh	An economic framework for optimal admission to maximize profit in wireless network	2018
Internal Examiner	Hashemite University	Mohammad Numan.	A Novel E-learnining cloud provider to increase profit using bidding in learning courses	2018
External Examiner	AL-Albayt University	Dania Khaled Al. Subihat	Predicting Student's Performance Using Hybrid Classification Algorithms	2022
External Examiner	Al – Zarqa University	Sohiap Mwafq Khlifat	The Most Code Smells That Effect Security and Increase gaps	2023
External Examiner	Al – Zarqa University	Tariq Shafiq Abubaker	Cloud Computing Modeling and Simulation for Resource Allocation Performance Enhancement with Space-Shared Allocation Policy	2023

Master Supervision:
- I supervise the following master student who graduated in 2017:
  -Bushra Hijawi. Her thesis title is "The use of the genetic algorithms in the recommender systems".
- I supervise the following two master students who graduated in 2025:
  - Name :Hanay Almoomani
    Dissertation title: The state-of-the-art Recommender System for Cyber Security
    Date of defense: 29 May 2025
  - Rfad Mansoor Al-Rufaid
    Dissertation title: Using state-of-the-art technology for detecting DDoS attacks on IoV
    Date of defense: 29th May 2025.

Examiner:
- External and internal examiner for many master and Ph.D. students.
- Examiner for many associate and professor applicants for different local and international universities.

Evaluator:

- Evaluator for many computer science programs in Jordan like:
    o computer science programs in Israa Uiversity in Jordan
    o computer science programs in Ajluen Uiversity in Jordan

Reviewer:

-I reviewed the wok of a master student at AL-Albayt University:

اثر استخدام برنامج محوسب في تحصيل طلبة الصف السابع الاساسي.غسان هادي خورشيد. قسم العلوم التربويه في كلية العلوم التربويه في جامعة آل البيت

A BET accredation:

I was the head of the computer information systems department for 4 years. In 2019, our department obtained the ABET accreditation for our program "Bachelor in Computer Information systems" for 6 years.

Research Fund:

Improving Recommender Systems Using Artificial Intelligence Techniques, 3700JD, 2015-2016.

Activities:

- Currently, I am the head of Computer Information Systems since the first semester 2024/2025.
- I have attended the workshop in Brussel titled "European Association for quality assurance in higher education (ENQA)" in January 2019 which was fully supported by the European Association for quality assurance.
- I have given a seminar in our faculty about ENQA in January 2019.
- I attended the conference "Towards National Qualifications framework for Jordan" which held in March 2019 at Princess Sumaya University for Technology.
- I attended "The international conference on advanced engineering computing and applications in science" and presented my paper titled "speeding up the recommender systems by excluding the low rated items" in December in Greece, 2018.
- I attended the deans' meeting about the qualification exam for Bachelor students in Jordan which held in Accreditation and Quality Assurance Commission for Higher Education Institutions in Amman in February 2019.
- Reviewer in IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT).
- Reviewer in the 2nd Workshop on Computer & Information Sciences (WCIS'2015) : Arabic Natural Language Processing: Models, Systems and Application, University of Tabuk, Kingdom of Suadi Arabia: http://www.shquier.com/wcis/.
- Reviewer in the IEEE computational intelligence magazine.
- Reviewer in the Journal of Knowledge-Based Systems.

- Reviewer in journal of advanced artificial intelligence paradigms.
- Reviewer in the International Arab Journal of Information Technology.
- A member of the organizing committee of the 2012 IEEE International Conference on Computers, Information and Telecommunication Systems, CITS 2012 – Hashemite University and Philadelphia University, Jordan, May 14 2012.

Teaching: I am teaching the courses: Special topics for master students and for undergraduate students: Web Programming, Visual basic, Discrete Maths, C language, Computation theory, C++, distributed computing, Introduction to programming, Data Structure, Artificial intelligence and Logic programming, C++, LINUX.

Working Experience:

(25/06/2020)-present (Professor): (Hashemite University, Jordan). I have been the head of the department of computer information systems from 2024-present.

(14/01/2015)-(24/06/2020) (Associate Professor): (Hashemite University, Jordan). I have been the head of the department of computer information systems from 2017-2019.

(11/10/2010)-(13/01/2015) (Assistant Professor): (Hashemite University, Jordan). I have been the head of the department of computer information systems from 2012-2014.

(10/2/2008)-(10/10/2010) (Full time lecturer): (Hashemite University, Jordan).

2004-2007: Ph.D. in Computer Science (Universiti Kebangsaan Malaysia).

2006-2007 Lecturer (Multimedia University, Malaysia): I taught the courses: Artificial intelligence and Logic programming).

2002-2004 Lecturer (Al-Albayt University – Jordan): I have taught the following courses:computation theory, software engineering, computing I & Computing 2, Linux, Data structure.

2000-2002 Tutor (Chinese University of Hong Kong – Hong Kong): I tutored the courses: Discrete math, Data structure, Algorithms, Programming with Constraints, Topics in Constraint Processing.

1997-1999 Lecturer (University of Science Malaysia (UNIMAS)-Malaysia): I have taught the following courses in UNIMAS: C++, LINUX, Data Structure, Distributed Systems, C language, Discrete Maths and Computation theory.

1996-1997 Research officer: I worked at University of Science Malaysia. The research title was: " The Construction of the machine translation system based on English/Malay Bilingual knowledge Bank". The project is being done at the Computer Aided Translation

Unit, School of Computer Science, University of Science Malaysia. The project had been done under the supervision of Dr. Tang Enyakong.

Teaching Statement:

I have more than 20 years teaching experience. I love teaching and interacting with students. I have taught many courses in Artificial intelligence and computer science. I have taught the following courses: introduction to programming, C language, C++, Artificial intelligence (Master level), Visual Basic, formal methods, software engineering, computation theory and web programming.

Research Statement:

I am doing research in artificial intelligence since I obtained my Bachelor degree in 1994. I obtained my Ph.D. degree in 2007. Currently, I am a professor in Artificial intelligence at faculty of information technology at Hashemite University. My research interest is in web intelligence and in particular in the recommender systems. I am researching in the use of AI techniques: genetic algorithms, local search algorithms in the recommender systems. In addition to the researching in the hybridization of matrix factorization and genetic algorithms. The following is the list of publications since the last 10 years.

Referee:

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