

## Academic Resume



### Sultanah Alshammari

#### Assistant Professor, Computer Science Department

Sultanah Alshammari is a motivated researcher and a faculty member in the Computer Science Department at King Abdulaziz University, who's actively involved in Forecasting of Potential Disease Epidemics in Mass Gatherings with a specific research interest in epidemic modeling and simulation. Sultanah's main objective is to use her research abilities and professional experience to drive positive changes and fulfill her social role and responsibilities towards society.

#### Contact Information.

Room 104, sshammari@kau.edu.sa.

#### Highest Degree.

2019, Doctorate in Computer Science and Engineering, Bioinformatics: Computational Epidemiology, University of North Texas, USA.

#### Academic and Professional Experiences.

1. **2024 - Present**  
Vice Director of Center of Research Excellence in Artificial Intelligence and Data Science, Jeddah, Saudi Arabia, King Abdulaziz University.
2. **2023 - Present**  
Head of FCIT Industrial Advisory Committee Reporting Committee, FCIT, Jeddah, Saudi Arabia, King Abdulaziz University.
3. **2022 - Present**  
Member of Academic Accreditation Committee, Computer Science Department, Jeddah, Saudi Arabia, King Abdulaziz University.
4. **2022 - Present**  
Head of Plans and Partnerships Committee , Computer Science Department, Jeddah, Saudi Arabia, King Abdulaziz University.
5. **2022 - Present**  
Head of Mass Gatherings Events Research Unit, Center of Excellence for Research for the Smart Environment, King Abdulaziz University, , .
6. **2022 - Present**  
Vice-chairman of Scientific Forum for KAU Students Committee, King Abdulaziz University, , .
7. **2019 - Present**  
Consultant in Dimoma: Business Continuity Center, Saudi Consulting & Training Company, Jeddah, Saudi Arabia, Dimoma: Business Continuity Center.
8. **2019 - Present**  
Assistant Professor, Jeddah, Saudi Arabia, King Abdulaziz University.

## Academic and Professional Experiences.

9. **2019 - 2020**  
Member of the Research Unit committee in Computer Science Department, King Abdulaziz University, Jeddah, Saudi Arabia, , .
10. **2019 - 2019**  
Grand Award Judge in INTEL International Science and Engineering Fair (INTEL ISEF 2019), Phoenix, Arizona, USA, INTEL.
11. **2018 - 2018**  
Hackathon Judge in Design-thinking hackathon of Dallas (HackDFW 2018), Dallas, TX, USA, HackDFW.
12. **2007 - 2010**  
Lecturer, Jeddah, Saudi Arabia, King Abdulaziz University.

## Research Interests.

Computational Epidemiology, Modeling and Simulation, Computational Applications in Mass Gatherings, Machine Learning, Data Science.

## Teaching Interests.

Compiler Construction, Programming Concepts, Programming Languages, Advanced Programming for AI.

## Certifications and Trainings.

1. Responsible Conduct of Research (RCR) from Collaborative Institutional Training Initiative (CITI Program).
2. Online Course: Teacher Training-How to Teach Online from Udemy.
3. Texas High Consequence Infectious Disease Workshop.
4. GSTEP: Graduate Student Teaching Excellence Program.
5. Online Course: Understanding the peer review process from Researcher Academy.
6. Online Course: COVID-19 Contact Tracing from Johns Hopkins Bloomberg School of Public Health.
7. Online Course: How to review a manuscript from Researcher Academy.

## Social, Scientific and Professional Affiliation.

1. -, Member of ISDS: International Society for Disease Surveillance, Boston, MA (2017-2018).
2. 2023-Present, Ambassador, WiDS Stanford.

## Excellence Awards and Patents.

1. 2019, International, Ph.D. Colloquium Award in the The 2019 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (ACM SIGSIM PADS)
2. 2018, International, Honorable Mention for the Award for Outstanding Student Abstract in the International Society of Disease Surveillance Annual Conference
3. 2015, International, Selected for NSF sponsored Graduate Data Science Workshop
4. 2020, International, Outstanding Reviewer Award, The Winter Simulation Conference 2020 (WSC 2020).
5. 2014, International, 3rd Place in UNT Toulouse Graduate School Graduate Exhibition

## Funded Projects.

1. 2020, Data-driven Computational Framework for Selecting Optimal Locations for Mass Dispensing of Health Services During Epidemics and Emergencies in Saudi Arabia, Institutional Fund Projects, Successfully Closed.

2. 2020, Studying the Effectiveness of Global Religious Gatherings Suspension in Saudi Arabia as a Preventive Measure against Infectious Diseases Outbreak, Institutional Fund Projects, Successfully Closed.
3. 2020, Forecasting of Epidemics Using Computer Simulation to Improve Infectious Diseases Preparedness and Prevention During Hajj Seasons in Saudi Arabia, Institutional Fund Projects, Successfully Closed.

## Publications.

1. Sultanah M. Alshammari, Nofe A. Alganmi, Mohammed H. Ba-Aoum, Sami Saeed Binyamin, Abdullah AL-Malaise AL-Ghamdi, Mahmoud Ragab, "Hybrid Arithmetic Optimization Algorithm With Deep Learning Model For Secure Unmanned Aerial Vehicle Networks", Aims Mathematics, vol: 9, pp. 7131-7151, 2024.  
DOI: [10.3934/math.2024348](https://doi.org/10.3934/math.2024348)
2. Nusaybah Alghanmi, Reem Alotaibi, Sultanah Alshammari, Arif Mahmood, "Population Fusion Transformer For Subnational Population Forecasting", International Journal Of Computational Intelligence Systems, vol: 17, 2024.  
DOI: [10.1007/s44196-024-00413-y](https://doi.org/10.1007/s44196-024-00413-y)
3. Rsha Mirza, Miltiadis D. Lytras, Ohoud Alzamzami, Lama Al Khuzayem, Hajar Alharbi, Sultanah Alshammari, Alaa Bafail, Arwa Basbrain, Eaman Alharbi, Nada Bajnaid, Nadia Yusuf, Wadee AlHalabi, "Clustering Potential Metaverse Users With The Use Of A Value-Based Framework: Exploiting Perceptions And Attitudes On The Use And Adoption Of Metaverse For Bold Propositions", Telematics And Informatics, vol: 87, pp. 102074, 2024.  
DOI: [10.1016/j.tele.2023.102074](https://doi.org/10.1016/j.tele.2023.102074)
4. Mahmoud Ragab, Sultanah M. Alshammari, Abdullah S. Al-Malaise Al-Ghamdi, "Modified Metaheuristics With Weighted Majority Voting Ensemble Deep Learning Model For Intrusion Detection System", Computer Systems Science And Engineering, vol: 47, pp. 2497-2512, 2023.  
DOI: [10.32604/csse.2023.041446](https://doi.org/10.32604/csse.2023.041446)
5. Nusaybah Alghanmi, Reem Alotaibi, Sultanah Alshammari, Arif Mahmood, "Population Affinity Propagation Approach For Points Of Dispensing Location Allocation", Applied Intelligence, 2023.  
DOI: [10.1007/s10489-023-04809-9](https://doi.org/10.1007/s10489-023-04809-9)
6. Abdullah S. AL-Malaise AL-Ghamdi, Sultanah M. Alshammari, Mahmoud Ragab, "Deep Learning Based Face Mask Detection In Religious Mass Gathering During Covid-19 Pandemic", Computer Systems Science And Engineering, vol: 46, pp. 1863-1877, 2023.  
DOI: [10.32604/csse.2023.035869](https://doi.org/10.32604/csse.2023.035869)
7. Asma Alghamdi, Suha Bako, Zahrah Al-Safwan, Sultanah M. Alshammari, "Video Analysis And Deep Learning For Contact Rate Estimation In Public Places And Mass Gatherings In Saudi Arabia", 2022 6th International Conference On Information Technology (Incit), pp. 251-255, 2022.  
DOI: [10.1109/IncIT56086.2022.10067474](https://doi.org/10.1109/IncIT56086.2022.10067474)
8. Basim Aljabhan, Mahmoud Ragab, Sultanah M. Alshammari, Abdullah S. Al-Malaise Al-Ghamdi, "Optimal Logistics Activities Based Deep Learning Enabled Traffic Flow Prediction Model", Computers, Materials & Continua, vol: 73, pp. 5269-5282, 2022.  
DOI: [10.32604/cmc.2022.030694](https://doi.org/10.32604/cmc.2022.030694)
9. Areej Alhothali, Budoor Alwated, Kamil Faisal, Sultanah Alshammari, Reem Alotaibi, Nusaybah Alghanmi, Omaimah Bamasag, Manal Bin Yamin, "Location-Allocation Model To Improve The Distribution Of Covid-19 Vaccine Centers In Jeddah City, Saudi Arabia", International Journal Of Environmental Research And Public Health, vol: 19, pp. 8755, 2022.  
DOI: [10.3390/ijerph19148755](https://doi.org/10.3390/ijerph19148755)
10. Mahmoud Ragab, Sultanah M. Alshammari, Amer H. Asseri, Waleed K. Almutiry, "Optimal Fusion-Based Handcrafted With Deep Features For Brain Cancer Classification", Computers, Materials & Continua, vol: 73, pp. 801-815, 2022.  
DOI: [10.32604/cmc.2022.029140](https://doi.org/10.32604/cmc.2022.029140)

## Publications.

11. Kamil Faisal, Sultanah Alshammari, Reem Alotaibi, Areej Alhothali, Omaimah Bamasag, Nusaybah Alghanmi, Manal Bin Yamin, "Spatial Analysis Of Covid-19 Vaccine Centers Distribution: A Case Study Of The City Of Jeddah, Saudi Arabia", International Journal Of Environmental Research And Public Health, vol: 19, pp. 3526, 2022.  
DOI: [10.3390/ijerph19063526](https://doi.org/10.3390/ijerph19063526)
12. Nusaybah Alghanmi, Reem Alotaibi, Sultanah Alshammari, Areej Alhothali, Omaimah Bamasag, Kamil Faisal, "A Survey Of Location-Allocation Of Points Of Dispensing During Public Health Emergencies", Frontiers In Public Health, vol: 10, 2022.  
DOI: [10.3389/fpubh.2022.811858](https://doi.org/10.3389/fpubh.2022.811858)
13. Sultanah M. Alshammari, Waleed K. Almutiry, Harsha Gwalani, Saeed M. Algarni, Kawther Saeedi, "Measuring The Impact Of Suspending Umrah, A Global Mass Gathering In Saudi Arabia On The Covid-19 Pandemic", Computational And Mathematical Organization Theory, 2021.  
DOI: [10.1007/s10588-021-09343-y](https://doi.org/10.1007/s10588-021-09343-y)
14. Sultanah Mohammed Alshammari, Mohammed Hassan Ba-Aoum, Nofe Ateq Alganmi, Arwa AbdulAziz Allinjawhi, "Agent-Based Simulation Framework For Epidemic Forecasting During Hajj Seasons In Saudi Arabia", Information, vol: 12, pp. 325, 2021.  
DOI: [10.3390/info12080325](https://doi.org/10.3390/info12080325)
15. Addawood, Aseel, Sultanah M. Alshammari, Amal A. Alqahtani, and Amal A. Almansour, "Analytical Study Of The Non-Pharmaceutical Public Health Interventions To Control The Novel Coronavirus Disease 2019 (Covid-19)", In Covid-19 Track Of The 2020 International Conference On Social Computing, Behavioral-Cultural Modeling, & Prediction And Behavior Representation In Modeling And Simulation (Sbp-Brims), 2020.
16. Sultanah M Alshammari, Waleed K Almutiry, Harsha Gwalani, Saeed M Algarni, "Preliminary Evaluation Of Global Mass Gatherings Suspension In Saudi Arabia During The Covid-19 Pandemic", In Covid-19 Track Of The 2020 International Conference On Social Computing, Behavioral-Cultural Modeling, & Prediction And Behavior Representation In Modeling And Simulation (Sbp-Brims), 2020.
17. Joseph E. Helsing, Harsha Gwalani, Armin R. Mikler, Sultanah M. Alshammari, "Validation And Evaluation Of Emergency Response Plans Through Agent-Based Modeling And Simulation", 2019 Winter Simulation Conference (Wsc), pp. 239-250, 2019.  
DOI: [10.1109/WSC40007.2019.9004775](https://doi.org/10.1109/WSC40007.2019.9004775)
18. Sultanah M. Alshammari, Harsha Gwalani, Joseph E. Helsing, Armin R. Mikler, "Disease Spread Simulation To Assess The Risk Of Epidemics During The Global Mass Gathering Of Hajj Pilgrimage", 2019 Winter Simulation Conference (Wsc), pp. 215-226, 2019.  
DOI: [10.1109/WSC40007.2019.9004669](https://doi.org/10.1109/WSC40007.2019.9004669)
19. Sultanah M. Alshammari, Armin R. Mikler, "Modeling Spread Of Infectious Diseases At The Arrival Stage Of Hajj", vol: 10814, pp. 430-442, 2018.  
DOI: [10.1007/978-3-319-78759-6\\_39](https://doi.org/10.1007/978-3-319-78759-6_39)
20. Sultanah M. Alshammari, Rodney D. Nielsen, "Less Is More: With A 280-Character Limit, Twitter Provides A Valuable Source For Detecting Self-Reported Flu Cases", The 2018 International Conference, pp. 1-6, 2018.  
DOI: [10.1145/3277104.3277105](https://doi.org/10.1145/3277104.3277105)
21. Sultanah Alshammari, Armin Mikler, "Data-Driven Computational Model To Assess The Risk Of Epidemics In Global Mass Gatherings", Online Journal Of Public Health Informatics, vol: 10, 2018.  
DOI: [10.5210/ojphi.v10i1.8319](https://doi.org/10.5210/ojphi.v10i1.8319)
22. Sultanah M. Alshammari, Armin M. Mikler, "Big Data Opportunities For Disease Outbreaks Detection In Global Mass Gatherings", The 2018 International Conference, pp. 16-21, 2018.  
DOI: [10.1145/3206157.3206160](https://doi.org/10.1145/3206157.3206160)

## **Publications.**

23. Sultanah M. Alshammari, Armin R. Mikler, "Modeling Disease Spread At Global Mass Gatherings: Data Requirements And Challenges", vol: 463, pp. 17-26, 2016.  
DOI: [10.1007/978-3-319-40415-8\\_3](https://doi.org/10.1007/978-3-319-40415-8_3)
24. Sultanah M. Alshammari, Armin R. Mikler, "Modeling Disease Spread At Global Mass Gatherings: Hajj As A Case Study", 2015 International Conference On Healthcare Informatics (Ichi), pp. 574-577, 2015.  
DOI: [10.1109/ICHI.2015.107](https://doi.org/10.1109/ICHI.2015.107)