

RESEARCH, PROF. UBAID M. AL-SAGGAF

INDUSTRIAL PROPOSALS

Submitted Proposals to the KAU Financial Sustainability Realization Office

- Jeddah Techno Park Company
- Ultrasound Medical Imaging Equipment Manufacturing Company
- Military Technologies Academy
- A company to integrate innovation and industrialization into teaching and learning

RESEARCH

Recently Approved Funded Research Projects

2024

52. Principal Investigator for two research projects out of three projects awarded by [GADD](#) to King Abdulaziz University (KAU) in 2024.
51. Advisor or Co-advisor for three graduate student research projects, part of a total of seven grants awarded by [GADD](#) to the Faculty of Engineering at King Abdulaziz University (KAU) in 2024.
50. "Rapid chest infection and COVID-19 diagnosis using ensemble multi-stream deep neural network", General Program for Indexed Publications(GPIP), KAU, CO-PI, 2024.

2022

49. "Design of two-dimensional filters for image denoising using Quantum calculus for Intelligent IoT applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, PI, 2022.
48. "Statistical Beamforming Aided Spectrum Sensing in Cooperative Cognitive Radio Networks for Military Communications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, PI, 2022.
47. "AI-Based Statistical Method for Waveforms Optimization in MIMO Radar for Military Applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, PI, 2022.
46. "Ergodic Capacity Maximization based Beamforming Design for MU-MIMO Downlink Communication Systems," DSR General Program, KAU, PI, 2022.
45. "Efficient deployment of tiny ML Algorithms on low power edge devices for emotion detection in IoT Applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.

44. "Visual Place Recognition for Autonomous Robots," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
43. "Diffusion Tensor Least Mean Squares algorithm for cooperative estimation in IoT," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
42. "Design of Uplink Receive Combining in Centralized Cell-Free Massive MIMO System for Military Communications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
41. "Deep Learning Based Anomaly Detection in Crowd Surveillance Videos," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
40. "Quantification of Body Posture using MEMS for Healthy Lifestyle," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
39. "Image Enhancement in Harsh Environments for Security Surveillance Applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
38. "Algorithmic Optimization of Semantic Segmentation using Deep Neural Networks for Deployment on IoT Edge Devices," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
37. "Coronavirus Disease (COVID-19) Detection using CT Images," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
36. "Large Scale Face Recognition for Surveillance Applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2022.
35. "Indoor Robot Localization using Fusion of Inertial and Visual Sensor Data," DSR General Program, KAU, CO-PI, 2022.
34. "Intelligent Control Techniques and the use of Artificial Intelligence (AI) for Biomedical Industrial and physical systems," KAU DSR Knowledge-Excellence Program, CO-PI, 2022.
33. "Artificial Intelligence Assisted semi-blind methods for channel estimation and data recovery in multi-carrier MIMO communications," KAU DSR Knowledge-Excellence Program, CO-PI, 2022.
32. "Artificial Intelligence Algorithms Design via Covariance Matrix Estimation in Large-dimensional Applications," KAU DSR Knowledge-Excellence Program, CO-PI, 2022.

2021

31. "Energy-efficient SSD-LMS algorithm for state-space estimation in distributed networks," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, PI, 2021.
30. "Distributed Posterior LMS Algorithms based Cooperative Estimation in Wireless Sensor Networks for Intelligent IoT applications," Institutional Fund for Research and Development, Indexed Scientific Publication Program, KAU, CO-PI, 2021.
29. "Investigation on a Novel Method to Identify Mental Stress Resilience using EEG Modality in a Virtual Reality Environment," FRGS, Ministry of Education (MOE), Malaysia, CO-PI, 2021.
28. "AI based Real-Time Mental Healthcare Assessment System, "Major Research Projects-Research capabilities," Institutional Fund for Research and Development, KAU, PI, 2021.
27. "Explainable Artificial Intelligence-based High Quality Medical Ultrasound Imaging for Improved Diagnosis Using Low-Cost System," Institutional Fund for Research and Development, KAU, CO-PI, 2021.
26. "Power electronics-based controller for Wind turbines towards Sustainable and Secure energy, "Major Research Projects-Research capabilities," Institutional Fund for Research and Development, KAU, CO-PI, 2021.
25. "Crowd Flow Monitoring in the Holy Places using Artificial Intelligence and Machine Learning," Makkah digital portal for research and innovation, KAU, Co_PI, 2021.

2020

24. "Artificial Intelligence Method for Extracellular Matrix Proteins Prediction using Latent Space Encoding," High Impact Research Publication, Institutional Fund for Research and Development, KAU, PI, 2020.
23. "Deep Learning Aided Adaptive Modulation for Communications in High Mobility Military Systems," High Impact Research Publication, Institutional Fund for Research and Development, KAU., CO-PI, 2020.
22. "Artificial-Intelligence based Secure Ultra-Reliable and Low-Latency Communications for Modern Military Wireless Systems," High Impact Research Publication, Institutional Fund for Research and Development, KAU, CO-PI, 2020.
21. "KAU LOW-COST VENTILATOR", KAU DSR, PI, 2020.
20. "High-Performance Controller Design for Fully Automated Mechanical Ventilation to serve the New Corona COVID-19 Patients", KAU DSR, CO-PI, 2020.

2019

19. "Robustness Improvement of the Fractional order LADRC scheme for Integer High order system," MOE High Quality/Impact Research Publication Initiative, PI, 2019.
18. "Nonsingular Terminal Synergetic Observer for Synchronization of Fractional-Order Chaotic Systems," MOE High Quality/Impact Research Publication Initiative, CO-PI, 2019.

17. "An Efficient Normalized LMS. Algorithm for adaptive beamforming in Massive MIMO systems," MOE High Quality/Impact Research Publication Initiative, CO-PI, 2019.
16. "Non-Iterative Data-Driven Fractional Order Controller: Tuning and Applications," KAU DSR Knowledge-Excellence Program, PI, 2019.
15. "Development and hardware implementation of new chaotic based encryption algorithms: Application to speech secure communication," KAU DSR Knowledge-Excellence Program, PI, 2019.
14. "Performance Analysis and Blind Beamforming Design of Multi-Cell Association in Downlink MU-MIMO System," KAU DSR, CO-PI, 2019.
13. "Hardware Implementation of Computer Vision Systems for Driverless Cars," M.O.E. Post-Doctoral Fellowships, CO-PI, 2019

2018

12. "EEG Signals based stress prediction and classification using Deep Learning Neural Networks," KAU CEIES, CO-PI, 2018.

2017

11. "Waveform Optimization for Future Wireless Radio and Underwater Acoustic Communication Systems," KAU CEIES, PI, 2017.)
10. "Efficient Cooperative Hybrid Automatic Repeat reQuest (HARQ) protocol to achieve QoS requirements using delay and throughput analysis for cognitive radio networks," KAU CEIES, CO-PI, 2017.
9. "Design of Fractional Controllers: Implementation and Testing on Physical Processes, Part 2", KAU CEIES, PI, 2017.

2016

8. "New Approach for speckle reduction in medical ultrasound imaging with real-time implementation on` an ultrasound imaging research system," KAU CEIES, CO-PI, 2016.
7. "Characterization and Beamforming of Interference Limited MIMO Cellular Networks: An Indefinite Quadratic Forms Approach," KAU DSR, CO-PI, 2016.
6. "Design of Chaos Based Secure Data Communication Systems: Application to Image Transmission," KAU CEIES, PI, 2016.

2014

6. "Distributed Optimization for Cooperative Estimation and Control in Multi-agent Systems," KAU DSR, PI, 2014.
5. "Gyro-Stabilized Platform Design and Air-to-Ground Video Target Tracking in Urban Environments," KACST ADVANCED AND STRATEGIC TECHNOLOGIES Program, Approved, PI, 2014.

2013

4. "Design of Fractional Controllers: Implementation and Testing on Physical Processes," KAU DSR, PI, 2013.
3. "A Novel Class of Stochastic Gradient Adaptive Algorithms Based on q-Derivative," KAU DSR, Distinct Research Study, PI, 2013.
2. "Modeling and Flight Control System Design for Autonomous UAV," KACST ADVANCED AND STRATEGIC TECHNOLOGIES Program, PI, 2013.
1. "Night Vision Based on Laser Gated Imaging," KACST ADVANCED AND STRATEGIC TECHNOLOGIES Program, PI, 2013.

Journal Publications

2025

119. Muhammad Shehzad Hanif, Muhammad Bilal, Abdullah H Alsaggaf, Ubaid M Al-Saggaf, "Enhancing Multi-Label Chest X-Ray Classification Using an Improved Ranking Loss," submitted.
118. Muhammad Arif, Muhammad Moinuddin, Abdulrahman U. Alsaggaf, Imran Naseem, Ubaid M. Al-Saggaf, "The Two-Dimensional q-Least Mean Square Algorithm," submitted.

2024

117. Maaz Mahadi, Tarig Ballal, Muhammad Moinuddin, Tareq Y. Al-Naffouri, and Ubaid M. Al-Saggaf, "Regularized Linear Discriminant Analysis Using a Nonlinear Covariance Matrix Estimator," IEEE Transactions on Signal Processing, vol. 72, pp. 1049-1064, 02 February 2024 doi: 10.1109/TSP.2024.3361715. (ISI) (IF 5.4), (Q1 Quartile).
116. N. U. Zaman, K. Munawar, M. Moinuddin, A. K. Hassan, and U. M. Al-Saggaf, "Sum Capacity Based Modeling and Secrecy Analysis of MISO-NOMA Cooperative IoT Framework," in IEEE Open Journal of the Communications Society, vol. 5, pp. 156-167, 2024, doi: 10.1109/OJCOMS.2023.3338775. (ISI) (IF 7.9), (Q1 Quartile).

2023

115. Ubaid M. Al-Saggaf, Jawwad Ahmad, Mohammed A. Alrefaei, and Muhammad Moinuddin. 2023. "Optimized Statistical Beamforming for Cooperative Spectrum Sensing in Cognitive Radio Networks" Mathematics 2023, 11, no. 16: 3533. <https://doi.org/10.3390/math11163533> (ISI) (IF 2.592), (Q1 Quartile).
114. M. S. Hanif, M. Bilal, K. Munawar and U. M. Al-Saggaf, "Enhancing Conventional Geometry-Based Visual Odometry Pipeline Through Integration of Deep Descriptors," in IEEE Access, vol. 11, pp. 58294-58307, 2023, doi: 10.1109/ACCESS.2023.3284463. (ISI) (IF 3.476), (Q2 Quartile).
113. Ahmad Kamal Hassan, Ubaid M. Al-Saggaf, and Muhammad Moinuddin, "Statistical Method based Waveform Optimization in collocated MIMO Radar Systems"

Mathematics, 2023, 11, 680. <https://doi.org/10.3390/math11030680> (ISI) (IF 2.592), (Q1 Quartile).

112. Abdulah Jeza Aljohani, Muhammad Moinuddin, Ubaid M. Al-Saggaf, Mohammed El-Hajjar, and Soon Xin Ng, "Statistical Beamforming for Multi-Set Space–Time Shift-Keying-Based Full-Duplex Millimeter Wave Communications" Mathematics 11, no. 2: 433. <https://doi.org/10.3390/math11020433> (ISI) (IF 2.592), (Q1 Quartile).
111. Hanif, M.S., Bilal, M., Balamash, A.S., Al-Saggaf, U.M. (2023). Hypotheses generation and verification based framework for crowd anomaly detection in single-scene surveillance videos. Traitement du Signal, Vol. 40, No. 1, pp. 115-122. <https://doi.org/10.18280/ts.400110> (ISI) (IF 2.299), (Q3 Quartile).
110. Belkacem Kada, Khalid Munawar, Muhammad Shafique Shaikh, Muhammad Bilal, Ubaid M. Al-Saggaf, "UAV Attitude Prediction using a new EKF and Stochastic Disturbed Process Noise Model," Mathematical Statistician and Engineering Applications, 72(1), 2156–2168. <https://www.philstat.org/index.php/MSEA/article/view/2713>

2022

- 109 Ubaid M.Al-Saggaf, Ahmad Kamal Hassan, and Muhammad Moinuddin, "Ergodic Capacity Analysis of Downlink Communication Systems under Covariance Shaping Equalizers" Mathematics 10, no. 22: 4304. <https://doi.org/10.3390/math10224304> (ISI) (IF 2.592), (Q1 Quartile).
108. Azzedine Zerguine, Jawwad Ahmad, Muhammad Moinuddin, Ubaid M. Al-Saggaf, and Abdelhak M. Zoubir, "An efficient normalized LMS algorithm," Nonlinear Dyn (2022). <https://doi.org/10.1007/s11071-022-07773-0> (ISI) (IF 5.741), (Q1 Quartile).
107. M. Mahadi, T. Ballal, M. Moinuddin and U. M. Al-Saggaf, "Portfolio Optimization Using a Consistent Vector-Based MSE Estimation Approach," in IEEE Access, vol. 10, pp. 86636-86646, 2022, doi: 10.1109/ACCESS.2022.3197896. (ISI) (IF 3.476), (Q2 Quartile)
106. Muhammad Moinuddin, Ahmad Kamal Hassan, and Ubaid M. Al-Saggaf, 2022. "Performance Analysis of Multi-Cell Association in Downlink MU-MIMO System with Arbitrary Beamforming" Mathematics, vol. 10, no. 15, p. 2611, Jul. 2022, <https://doi.org/10.3390/math10152611> (ISI) (IF 4.755), (Q1 Quartile).
105. Ibrahim M. Mehedi, K. Prahlad Rao, Ubaid M. Al-Saggaf, Hadi Mohsen Alkanfery, Maamar Bettayeb, Rahtul Jannat, "Intelligent Tomographic Microwave Imaging for Breast Tumor Localization", Mathematical Problems in Engineering, vol. 2022, Article ID 4090351, 9 pages, 2022. <https://doi.org/10.1155/2022/4090351> (ISI) (IF 1.43), (Q4 Quartile).
104. I. M. Mehedi, A. J. Aljohani, U. M. Al-Saggaf, A. I. Iskanderani, T. Palaniswamy et al., "Control of linear servo carts with integral-based disturbance rejection," Computers, Materials & Continua, vol. 73, no.1, pp. 453–463, 2022. [doi:10.32604/cmc.2022.022921](https://doi.org/10.32604/cmc.2022.022921) (ISI) (IF 3.86), (Q2 Quartile).
103. Maamar Bettayeb, Rachid Mansouri, Ubaid M. Al-Saggaf, Abdulrahman U. Alsaggaf, and Mohammed Moinuddin, "New LADRC scheme for fractional-order system," Alexandria Engineering Journal, Volume 61, Issue 12, 2022, Pages 11313-11323, ISSN 1110-0168, <https://doi.org/10.1016/j.aej.2022.05.008> (ISI) (IF 6.626), (Q1 Quartile).

102. Maamar Bettayeb, Rachid Mansouri, Ubaid M. Al-Saggaf, Abdulrahman U. Alsaggaf, and Mohammed Moinuddin, "Linear Active Disturbance Rejection Control with a Fractional Order Integral Action," CMC-Computers, Materials & Continua, vol. 73, no.2, pp. 3057–3079, 2022. <https://doi.org/10.32604/cmc.2022.025751> (ISI) (IF 3.86), (Q2 Quartile).
101. Rumaisa Abu Hasan, Muhamad S.B. Yusoff, Tong B. Tang, Yasir Hafeez, Mazlina C. Mustafa, Masayu Dzainudin, Juppri Bacotang, Ubaid M. Al-Saggaf, and Syed S.A. Ali, "Resilience-Building for Mental Health among Early Childhood Educators: A Systematic Review and Pilot-Study towards an EEG-VR Resilience Building Intervention," International Journal of Environmental Research and Public Health 19, no. 7: 4413, 2022. <https://doi.org/10.3390/ijerph19074413> (ISI) (IF 4.614), (Q1 & Q2 Quartile)
100. Yasser M. Kadah, Ahmed F. Elnokrashy, Ubaid M. Alsaggaf and Abou-Bakr M. Youssef, "Principal Component Analysis Based Hybrid Speckle Noise Reduction Technique for Medical Ultrasound Imaging" International Journal of Advanced Computer Science and Applications, Vol. 13, Issue 12, 2022. <http://dx.doi.org/10.14569/IJACSA.2022.0131256> (ISI)
99. Ubaid M. Al-Saggaf, Syed Faraz Naqvi, Muhammad Moinuddin, Sulhi Ali Alfakeh, and Syed Saad Azhar Ali, "Performance Evaluation of EEG Based Mental Stress Assessment Approaches for Wearable Devices," Frontiers in Neurorobotics, Vol. 15, 2022, DOI=10.3389/fnbot.2021.819448, <https://www.frontiersin.org/article/10.3389/fnbot.2021.819448> (ISI) (IF 3.493), (Q2 & Q3 Quartile)
98. Muhammad Bilal, Khalid Munawar, Muhammad Shafique Shaikh, Ubaid M Al-Saggaf, Belkacem Kada, "Hyperspectral Image Segmentation using End-to-End CNN Architecture with built-in Feature Compressor for UAV Systems," International Journal of Advanced Computer Science and Applications, Vol. 13, Issue 12, 2022. (ISI)
97. Ubaid M Al-Saggaf, Abdelaziz Botalb, Muhammad Faisal, Muhammad Moinuddin, Abdulrahman U Alsaggaf, and Sulhi Ali Alfakeh, "Constraints on Hyper-parameters in Deep Learning Convolutional Neural Networks", International Journal of Advanced Computer Science and Applications, Vol. 13, Issue 11, 2022. (ISI)
96. Muhammad Moinuddin, Shujaat Khan, Abdulrahman U. Alsaggaf, Mohammed Jamal Abdulaal, Ubaid M. Al-Saggaf and Jong Chul Ye, "Medical ultrasound image speckle reduction and resolution enhancement using texture compensated multi-resolution convolution neural network," Frontiers in Physiology, 13, 2022. <https://doi.org/10.3389/fphys.2022.961571> (ISI) (IF 4.755), (Q1 Quartile)
95. Yasser M. Kadah, Ahmed F. Elnokrashy, Ubaid M. Alsaggaf and Abou-Bakr M. Youssef, "Speckle Reduction in Medical Ultrasound Imaging based on Visual Perception Model" International Journal of Advanced Computer Science and Applications, Vol. 13, Issue 11, 2022. <http://dx.doi.org/10.14569/IJACSA.2022.0131166> (ISI)
94. Maaz Mahadi, Tarig Ballal, Muhammad Moinuddin, and Ubaid M. Al-Saggaf, "A Recursive Least-Squares with a Time-Varying Regularization Parameter. Applied Sciences. 2022; 12(4):2077. <https://doi.org/10.3390/app12042077> (ISI) (IF 2.838), (Q2 & Q3 Quartile)

93. I. M. Mehedi, N. Saad, M. A. Magzoub, U. M. Al-Saggaf, and A. H. Milyani, "Simulation Analysis and Experimental Evaluation of Improved Field-Oriented Controlled Induction Motors Incorporating Intelligent Controllers," in IEEE Access, vol. 10, pp. 18380-18394, 2022, <https://doi.org/10.1109/ACCESS.2022.3150360>. (ISI) (IF 3.476), (Q2 Quartile)
92. Shahriar Mostufa, Tarik Bin Abdul Akib, Md. Masud Rana, Ibrahim M. Mehedi, Ubaid M. Al-Saggaf, Abdulrahman U. Alsaggaf, Mohammed U Alsaggaf, and Md. Sarowar Alam, "Numerical approach to design the graphene-based multilayered surface plasmon resonance biosensor for the rapid detection of the novel coronavirus," Opt. Continuum 1, 494-515 (2022) <https://doi.org/10.1364/OPTCON.445255> (ISI)
91. Ubaid M Al-Saggaf, Maamar Bettayeb, Said Djenoune, "Fixed-time synchronization of memristor chaotic systems via a new extended high-gain observer," European Journal of Control, Volume 63, 2022, Pages 164-175, ISSN 0947-3580, <https://doi.org/10.1016/j.ejcon.2021.10.002> (ISI) (IF 2.649), (Q3 Quartile)
90. Muhammad Arif, Imran Naseem, Muhammad Moinuddin, Abdulrahman U. Alsaggaf, Ubaid M. Al-Saggaf, "Energy-efficient SSD-LMS algorithm for state-space estimation in distributed networks," Digital Signal Processing, 2021, 103362, ISSN 1051-2004, <https://doi.org/10.1016/j.dsp.2021.103362>. (ISI) (IF 2.92), (Q2 Quartile)
89. Said Djenoune, Maamar Bettayeb, Ubaid Muhsen Al-Saggaf, "Fixed-time convergent sliding-modes-based differentiators," Communications in Nonlinear Science and Numerical Simulation, Volume 104, 2022, 106033, ISSN 1007-5704, <https://doi.org/10.1016/j.cnsns.2021.106033>. (ISI) (IF 4.186), (Q1 Quartile)
88. Ibrahim M. Mehedi, Rachid Mansouri, Ubaid M. Al-Saggaf, et al., "Fractional Order Linear Active Disturbance Rejection Control for Linear Flexible Joint System," CMC-Computers, Materials & Continua, 70(3), 5133–5142., <https://doi.org/10.32604/cmc.2022.021018> (ISI) (IF 3.86), (Q2 Quartile)
87. Rachid Mansouri, Maamar Bettayeb, Ubaid M. Al-Saggaf, Abdulrahman U. Alsaggaf, and Muhammad Moinuddin, "Extended State Observer Based Fractional Order Controller Design for Integer High Order Systems," Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science. December 2022, <https://doi.org/10.1177/09544062211062100> (ISI) (IF 1.758), (Q3 Quartile)
86. Mehedi, I. M., Al-Saggaf, U. M., Vellingiri, M. T., Milyani, A. H., Saad, N. B. et al., "OBDO Based Fractional PID for MPPT-Pitch Control of Wind Turbine Systems. CMC-Computers, Materials & Continua," 71(2), 4001–4017, (2022). <https://doi.org/10.32604/cmc.2022.021981> (IF 3.86), (Q2 Quartile)
85. Muhammad Arif, Muhammad Moinuddin, Imran Naseem, Abdulrahman Al-Saggaf, Ubaid M Al-Saggaf, "Diffusion Quantum-Least Mean Square Algorithm for Distributed Estimation," Circuits Syst Signal Process (2022). <https://doi.org/10.1007/s00034-021-01934-z>. (ISI) (IF 2.311), (Q3 Quartile)
84. Ibrahim M. Mehedi, Maher H. Al-Sereihy, Asmaa U. Al-Saggaf, Ubaid M. Al-Saggaf, "A Non-integer Order Control Scheme for the Core Power of a Pressurized Water Reactor," CMC-Computers, Materials & Continua, 72(1), 651–662, <https://www.techscience.com/cmc/v72n1/46839>, (ISI) (IF 3.86), (Q2 Quartile)

2021

83. Ubaid M. Al-Saggaf, Muhammad Usman, Imran Naseem, Muhammad Moinuddin, Ahmad A. Jiman, Mohammed U. Alsaggaf, Hitham K. Alshoubaki, and Shujaat Khan, "ECM-LSE: Prediction of Extracellular Matrix Proteins using Deep Latent Space Encoding of k-Spaced Amino Acid Pairs," *Front. Bioeng. Biotechnol*, 2021, <https://www.frontiersin.org/articles/10.3389/fbioe.2021.752658> , (ISI) (IF 5.89), (Q1 Quartile)
82. Yasir Hafeez, Syed Saad Azhar Ali, Rumaisa Abu Hasan, Syed Hasan Adil, Muhammad Moinuddin, Mansoor Ebrahim, Muhamad Saiful Bahri Yusoff, Hafeezullah Amin, Ubaid Al-Saggaf, "Development of Enhanced Stimulus Content to Improve the Treatment Efficacy of EEG-Based Frontal Alpha Asymmetry Neurofeedback for Stress Mitigation," in *IEEE Access*, vol. 9, pp. 130638-130648, 2021, DOI: 10.1109/ACCESS.2021.3114312. (ISI) (IF 3.367), (Q2 Quartile)
81. U. M. Al-Saggaf, R. Mansouri, M. Bettayeb, I. M. Mehedi, and K. Munawar, "Robustness Improvement of the Fractional-Order LADRC Scheme for Integer High-Order System," in *IEEE Transactions on Industrial Electronics*, Vol. 68, no. 9, pp. 8572-8581, Sept. 2021, DOI: 10.1109/TIE.2020.3016258. (ISI) (IF 8.236), (Q1 Quartile)
80. Ibrahim M. Mehedi, Jahin Al Hasan Joy, Md. Rafiqul Islam, Nayeema Hasan, Ubaid M. Al-Saggaf, Ahmad H. Milyani, Ahmed I. Iskanderani, Abdullah Abusorrah, Muhyaddin Rawa, Hussain Bassi, "Reducing Fault Current by Using FACTS Devices to Improve Electrical Power Flow," *Mathematical Problems in Engineering*, vol. 2021, Article ID 8116816, 9 pages, 2021. <https://doi.org/10.1155/2021/8116816> (ISI) (IF 1.305), (Q3, Q4 Quartile)
79. Ubaid M. Al-Saggaf, Ibrahim M. Mehedi, Rachid Mansouri, Maamar Bettayeb, "Fractional Order Linear ADRC-Based Controller Design for Heat-Flow Experiment," *Mathematical Problems in Engineering*, vol. 2021, Article ID 7291420, 8 pages, 2021. <https://doi.org/10.1155/2021/7291420> (ISI) (IF 1.305), (Q3, Q4 Quartile)
78. Muhammad Kashif Yaqoob, Syed Farooq Ali, Muhammad Bilal, Muhammad Shehzad Hanif, Ubaid M Al-Saggaf, "ResNet Based Deep Features and Random Forest Classifier for Diabetic Retinopathy Detection," *Sensors* 21, no. 11: 3883. <https://doi.org/10.3390/s21113883>. (ISI) (IF 3.576), (Q1 & Q2 Quartile)
77. Ibrahim M. Mehedi, Heidir S. M. Shah, Ubaid M. Al-Saggaf, Rachid Mansouri, Maamar Bettayeb, "Adaptive Fuzzy Sliding Mode Control of a Pressure-Controlled Artificial Ventilator," *Journal of Healthcare Engineering*, vol. 2021, Article ID 1926711, 10 pages, 2021. <https://doi.org/10.1155/2021/1926711> (ISI) (IF 2.682), (Q2 Quartile)
76. Ibrahim M. Mehedi, Heidir S. M. Shah, Ubail M. Al-Saggaf, Rachid Mansouri, Maamar Bettayeb, "Fuzzy PID Control for Respiratory Systems," *Journal of Healthcare Engineering*, vol. 2021, Article ID 7118711, 6 pages, 2021. <https://doi.org/10.1155/2021/7118711> (ISI) (IF 2.682), (Q2 Quartile)
75. S. M. Amrr, M. Nabi, U. M. Al-Saggaf and M. Bettayeb, "Attitude Control of Spacecraft under Restricted Network Using Robust Event Triggered Optimized Strategy," in *IEEE*

Journal on Miniaturization for Air and Space Systems, vol. 2, no. 4, pp. 179-188, Dec. 2021, doi: 10.1109/JMASS.2021.3069938.

74. Maher H. Al-Sereihy, Ibrahim M. Mehedi, Ubaid M. Alsaggaf, Khalid Munawar, Rachid Mansouri, Maamar Bettayeb, "Fractional Data-Driven Control for a Rotary Flexible Joint System," International Journal of Advanced Robotic Systems. <https://doi.org/10.1177%2F1729881421998580> (ISI) (IF 1.652)

2020

73. Waleed Aldosari, Muhammad Moinuddin, Abdulah Jeza Aljohani, Ubaid M Al Saggaf, "Distributed Extended Kalman Filtering based Techniques for 3-D UAV Jamming Localization," Sensors 2020, 20, 6405. <https://doi.org/10.3390/s20226405> (ISI) (IF 3.275), (Q1 & Q2 Quartile)
72. Nur Afande Ali Hussain, Syed Saad Azhar Ali, Pere Ridao, Patryk Cieslak and Ubaid M. Al-Saggaf, "Implementation of Nonlinear Adaptive U-Model Control Synthesis Using a Robot Operating System for an Unmanned Underwater Vehicle," IEEE Access, vol. 8, pp. 205685-205695, 2020, doi: 10.1109/ACCESS.2020.3037122. (ISI) (IF 3.745) (Q1 Quartile)
71. Syed Faraz Naqvi, Syed Saad Ali, Norashikin Yahya, Mohd Azhar Mohd Yasin, Yasir Hafeez, Ahmad Rauf Subhani, Syed Hasan Adil, Ubaid Al-Saggaf, and Muhammad Moinuddin, "Real-Time Stress Assessment Using Sliding Window Based on Convolutional Neural Network," SENSORS. Sensors 2020, 20(16), 4400; <https://doi.org/10.3390/s20164400> (ISI) (IF 3.275), (Q1 & Q2 Quartile)
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Ph.D. AND M.Sc. THESIS

Supervised/Co-supervised more than 25 Ph.D. and M.Sc. Theses.