Role of A.I in Poultry; A short Communication

Adil Sana

Faculty of Veterinary and Animal Science, MNS University of Agriculture Multan, Pakistan. adilsana080@gmail.com

adilsana080@gmail.com

Over the past 30 years, the production of chickens has climbed by more than twice, reaching 25.9 billion birds in 2019 and up to 80% in 2020. (1). With 13.3 million tonnes produced and 1.5 million tonnes exported—or 9% of all exports worldwide Poland ranked among the top exporters globally in 2019. Poland was the top producer of chicken meat in the European Union in 2019. 2.6 million tonnes of poultry meat were produced in Poland (2). In the upcoming years, it is projected that production of poultry meat, which continues to be the primary category of total meat production (3), would rise (4). As a result, efforts to improve poultry production efficiency while improving the health and wellbeing of the animals are ongoing. We discover that the birds' interest significantly affects the quality of the products in chicken production, which may have an impact on economic efficiency (5). A bird is said to have a high level of welfare if it behaves naturally, is healthy, and is in a joyful emotional state (6). One of the biggest issues in today's chicken production that can have a large impact on welfare is behaviour disorders, which can manifest in a range of behaviours, such as increased aggression, lameness, cannibalism, or feather plucking and cause financial losses (7, 8, 9, 10, 11, 12). Modern chicken farms also frequently eliminate staff while maintaining or increasing bird counts to cut costs, which lowers the herd's welfare and prevents it from showing a particular species' behaviour (13). In order to increase production efficiency and improve animal welfare, it is essential to monitor animal behaviour, feeding procedures, and environmental conditions. Additionally, more efficient management and monitoring practises are being created as public interest in and concern about chicken breeding grows. Precision Livestock Farming (PLF) instruments enable the unattended collecting of broadly understood data on housing conditions and animals in real-time without any direct humananimal contact. This makes it possible to acquire precise information (14). To regulate animal welfare, health, and performance, an automated management system based on real-time data can be created (Figure 1). This system will use data from numerous sources that have been gathered by sensors or other equipment (15). A key element that facilitates the effective use of PLF technologies is their interoperability with commercial poultry farm equipment depending on the data gathered (16). PLF technologies can help in early detection of animal welfare issues, better and faster management decisions, and long-term financial loss minimization (17). The different technologies that can be introduced into chicken production systems to better manage the environment, human health, and animal welfare are discussed in this paper. The practical use and potential consequences of such technology on wellness are looked at.

SUMMARY OF COMMUNICATION

A novel approach to improving animal welfare in the poultry business is focused on the exact control of animals (18-20). The health of the birds and the quality of the chicken products are substantially impacted by adequate welfare conditions, and this has an impact on how economically viable poultry production is. Utilizing technology in diverse animal production systems is a development that can help farmers better manage the environment and the health of birds (20-25). Additionally, resolutions are being created to enhance control and monitoring in this area of animal agriculture as public concern over chicken breeding and welfare rises. PLF (precision livestock farming) gathers real-time information on birds using a variety of approaches (26-30). PLF can help prevent decreasing animal wellbeing by identifying diseases and stressful situations in the early stages and enabling action to be made quickly enough to minimize the negative repercussions (31-37). A.I Have important role in approximately all fields (38-43). This short communication links the possible applications of cutting-edge technology to monitor broilers and laying hens in order to improve precision livestock production and also economic Production (43-47). Since Poultry have High impact on economy (47-49) so we should move towards technology

REFERENCE

- Abbas, E. F., Al-abady, A., Raja, V., AL-bonsrulah, H. A., & Al-Bahrani, M. (2022). Effect of air gap depth on Trombe wall system using computational fluid dynamics. *International Journal of Low-Carbon Technologies*, 17, 941-949.
- Abed, A. M., Majdi, H. S., Sopian, K., Ali, F. H., Al-Bahrani, M., Al-Amir, Q. R., & Yakoob, A. K. (2022). Techno-Economic Analysis of dual ejectors solar assisted combined absorption cooling cycle. *Case Studies in Thermal Engineering*, 39, 102423.
- 3. Abueid, A. I. S., Haron, N. F., & Abad, O. M. (2018). The Impact of Foreign Direct Investment, Aids and Economic Growth: Evidence from Structural Breaks for Jordan. *International Journal of Academic Research in Business and Social Sciences*, 8(11).
- Ahmer, A., Hamza, M., Muazzam, A., Samad, A., Tariq, S., Ahmad, S., & Mumtaz, M. T. (2022). Effects of COVID-19 on environmental conditions and poultry production. *Brilliance: Research of Artificial Intelligence*, 2(3), 97-101.
- Al-Abboodi, H., Fan, H., Mahmood, I. A., & Al-Bahrani, M. (2021). Experimental Investigation and Numerical Simulation for Corrosion Rate of Amorphous/Nano-Crystalline Coating Influenced by Temperatures. *Nanomaterials*, 11(12), 3298.
- 6. Al-Awkally, Noor-Alhooda Milood, Hamza Khalifa Ibrahim, and Abdul Samad. "Antipsychotic Combinations for Psychiatric Disorders." *BULLET: Jurnal Multidisiplin Ilmu* 1.01 (2022): 49-50
- 7. Al-Bahrani, M., & Cree, A. (2018). Predicting the mechanical behavior of epoxy resin based carbon nanotubes.
- Al-Bahrani, M., Alhakeem, M. R. H., & Cree, A. (2020). Damage sensing and mechanical properties of a laminate composite material containing MWCNTs during low-velocity impact. *Journal of Petroleum Research and Studies*, 10(4), 147-164.
- 9. Al-Bahrani, M., Bouaissi, A., & Cree, A. (2022). The fabrication and testing of a self-sensing MWCNT nanocomposite sensor for oil leak detection. *International Journal of Low-Carbon Technologies*, *17*, 622-629.
- 10. Al-Bahrani, M., Gombos, Z. J., & Cree, A. (2018). The mechanical properties of functionalised MWCNT infused epoxy resin: A theoretical and experimental study. *Int. J. Mech. Mechatronics Eng*, *18*, 76-86.
- 11. Al-Dabagh, M. Z. N., Alhabib, M. M., & Al-Mukhtar, F. H. (2018). Face recognition system based on kernel discriminant analysis, k-nearest neighbor and support vector machine. *International Journal of Research and Engineering*, 5(3), 335-338.
- AL-Dabagh, M. Z., & AL-Mukhtar, F. H. (2017). Breast cancer diagnostic system based on MR images using KPCA-wavelet transform and support vector machine. *International Journal of Advanced Engineering Research* and Science, 4(3), 237106.
- 13. Alhabib, M. H. M., Al-Dabagh, M. Z. N., AL-Mukhtar, F. H., & Hussein, H. I. (2019). Exploiting wavelet transform, principal component analysis, support vector machine, and k-nearest neighbors for partial face recognition. *Cihan University-Erbil Scientific Journal*, *3*(2), 80-84.
- Al-Hashimi, M., Mohammed Jameel, S., Husham Almukhtar, F., Abdul Zahra, M. M., & Adnan Jaleel, R. (2022). Optimised Internet of Thing framework based hybrid meta-heuristic algorithms for E-healthcare monitoring. *IET Networks*.
- Alhayani, B. S., Hamid, N., Almukhtar, F. H., Alkawak, O. A., Mahajan, H. B., Kwekha-Rashid, A. S., ... & Alkhayyat, A. (2022). Optimized video internet of things using elliptic curve cryptography based encryption and decryption. *Computers and Electrical Engineering*, 101, 108022.
- 16. Al-kasasbeh, O. (2022). COVID-19 Pandemic: Macroeconomic Impacts and Understanding its Implications for Jordan. *Journal of Environmental Science and Economics*, 1(2), 51-57.
- 17. Alkasasbeha, O. M. A., Haron, N. F., & Abueid, A. I. S. (2018). The impact of government expenditures, taxes on economic growth in Jordan. *American based research journal*, 7(12).
- 18. Al-Mukhtar, F. H. (2003). Parallel Generation of non linear curves with computer aided application. A these of doctor, Iraqi commission for computer and information.
- 19. Almukhtar, F., Mahmoodd, N., & Kareem, S. (2021). Search engine optimization: a review. *Applied Computer Science*, *17*(1).
- Balamurugan, R. J., AL-bonsrulah, H. A., Raja, V., Kumar, L., Kannan, S. D., Madasamy, S. K., ... & Al-Bahrani, M. (2022). Design and Multiperspectivity based performance investigations of H-Darrieus vertical Axis wind turbine through computational fluid dynamics adopted with moving reference frame approaches. *International Journal of Low-Carbon Technologies*.
- 21. Firas, A. M., & AL-Dabagh, M. Z. N. (2017). Real-Time Face Recognition System Using KPCA, LBP and Support Vector Machine. *International Journal of Advanced Engineering Research and Science*, 4(2), 237062.
- Galety, M. G., Al Mukthar, F. H., Maaroof, R. J., Rofoo, F., & Arun, S. (2022, April). Marking Attendance using Modern Face Recognition (FR): Deep Learning using the OpenCV Method. In 2022 8th International Conference on Smart Structures and Systems (ICSSS) (pp. 1-6). IEEE.
- Galety, M. G., Al-Mukhtar, F., Rofoo, F., Sriharsha, A. V., & Maaroof, R. (2022). Electroencephalography Image Classification Using Convolutional Neural Networks. In *The International Conference on Innovations in Computing Research* (pp. 42-52). Springer, Cham.
- 24. Galety, M., Al Mukthar, F. H., Maaroof, R. J., & Rofoo, F. (2021). Deep Neural Network Concepts for Classification using Convolutional Neural Network: A Systematic Review and Evaluation.

Adil Sana | https://journal.mediapublikasi.id/index.php/bullet | Page 841

- 25. Hamza, M., Samad, A., Ahmer, A., Muazzam, A., Tariq, S., Hussain, K., & Waqas, M. U. (2022). Overview of Aspergillosis a fungal disease in poultry and its effect on Poultry Business. *African Journal of Advanced Pure and Applied Sciences (AJAPAS)*, 17-22.
- Ismael, S. H., Kareem, S. W., & Almukhtar, F. H. (2020). Medical Image Classification Using Different Machine Learning Algorithms. *AL-Rafidain Journal of Computer Sciences and Mathematics*, 14(1), 135-147.
- Jayeola, O., Sidek, S., Abdul-Samad, Z., Hasbullah, N. N., Anwar, S., An, N. B., ... & Ray, S. (2022). The Mediating and Moderating Effects of Top Management Support on the Cloud ERP Implementation–Financial Performance Relationship. *Sustainability*, 14(9), 5688.
- 28. Kasasbeh, O. (2021). Fiscal Policy and its Relationship with Economic Growth a Review Study. *Available at SSRN* 3789109.
- Kasasbeh, O. (2021). Public Debt and Economic Growth: Is There Any Causal Effect? An Empirical Analysis With Structural Breaks and Granger Causality for Jordan. *INTERNATIONAL JOURNAL OF TRENDS IN* ACCOUNTING RESEARCH, 2(1), 106-110.
- Khan, M. F., Ahmed, H., Almashhadani, H. A., Al-Bahrani, M., Khan, A. U., Ali, S., ... & Zahid, M. (2022). Sustainable adsorptive removal of high concentration organic contaminants from water using biodegradable Gum-Acacia integrated magnetite nanoparticles hydrogel adsorbent. *Inorganic Chemistry Communications*, 110057.
- Kumar, A., Singh, S., & Al-Bahrani, M. (2022). Enhancement in power conversion efficiency and stability of perovskite solar cell by reducing trap states using trichloroacetic acid additive in anti-solvent. *Surfaces and Interfaces*, 34, 102341.
- Li, J., Chen, J., Yuan, Z., Xu, L., Zhang, Y., & Al-Bahrani, M. (2022). Multi-objective risk-constrained optimal performance of hydrogen-based multi energy systems for future sustainable societies. *Sustainable Cities and Society*, 87, 104176.
- 33. Madasamy, S. K., Raja, V., AL-bonsrulah, H. A., & Al-Bahrani, M. (2022). Design, development, and multidisciplinary investigations of aerodynamic, structural, energy, and exergy factors on 1 kW horizontal Axis wind turbine. *International Journal of Low-Carbon Technologies*.
- 34. Mikhail, D. Y., Al-Mukhtar, F. H., & Kareem, S. W. (2022). A Comparative Evaluation of Cancer Classification via TP53 Gene Mutations Using Machin Learning. *Asian Pacific Journal of Cancer Prevention*, 23(7), 2459-2467.
- Mohammed, B. N., Al-Mukhtar, F. H., Yousif, R. Z., & Almashhadani, Y. S. (2021). Automatic Classification of Covid-19 Chest X-Ray Images Using Local Binary Pattern and Binary Particle Swarm Optimization for Feature Selection. *Cihan University-Erbil Scientific Journal*, 5(2), 46-51.
- 36. Munagala, N. V. L., Saravanan, V., Almukhtar, F. H., Jhamat, N., Kafi, N., & Khan, S. (2022). Supervised Approach to Identify Autism Spectrum Neurological Disorder via Label Distribution Learning. *Computational Intelligence and Neuroscience*, 2022.
- 37. Muthanna, F. M., & Samad, A. (2022). Covid-19 Pendemic (Incidence, Risk factors and Treatment). *BULLET: Jurnal Multidisiplin Ilmu*, 1(01), 46-48.
- 38. Samad A, Abbas A, Mehtab U, Ur Rehman Ali Khera H, Rehman A and Hamza M. Infectious Bronchitis Disease in Poultry its Diagnosis, Prevention and Control Strategies. *Ann Agric Crop Sci.* 2021; 6(7): 1100.
- 39. Samad, A. (2022). Antibiotics Resistance in Poultry and its Solution. *Devotion Journal of Community Service*, *3*(10), 999-1020.
- 40. Samad, A. ., Hamza , M., Muazzam, A. ., Ahmad, H. ., Ahmer, A. ., Tariq, S. ., Khera, H. U. R. A. ., Mehtab, U. ., Shahid, M. J. ., Akram, W. ., Kaleem, M. Z. ., Ahmad, S. ., Abdullah, A. ., & Ahmad, S. . (2022). Policy of control and prevention of infectious bursal disease at poultry farm. *African Journal of Biological, Chemical and Physical Sciences*, 1(1), 1-7.
- 41. Samad, A., Ahmad, H., Hamza, M., Muazzam, A., Ahmer, A., Tariq, S & Muthanna, F. M. (2022). Overview of Avian Corona virus, its prevention and control Measures. *BULLET: Jurnal Multidisiplin Ilmu*, 1(01), 39-45.
- 42. Samad, A., Hamza, M., Muazzam, A., & Harahap, M. K. (2022). Role of Artificial Intelligence in Livestock and Poultry Farming. *Sinkron: jurnal dan penelitian teknik informatika*, 7(4), 2425-2429.
- Samad, A., Hamza, M., Muazzam, A., Ahmer, A., Tariq, S., Ahmad, S., & Mumtaz, M. T. (2022). Current Perspectives on the Strategic Future of the Poultry Industry After the COVID-19 Outbreak. *Brilliance: Research of Artificial Intelligence*, 2(3), 90-96.
- 44. Samad, A., Hamza, M., Muazzam, A., Ahmer, A., Tariq, S., Ahmad, S., & Mumtaz, M. T. (2022). Current Perspectives on the Strategic Future of the Poultry Industry After the COVID-19 Outbreak. *Brilliance: Research of Artificial Intelligence*, 2(3), 90-96.
- Samad, A., Hamza, M., Muazzam, A., Ahmer, A., Tariq, S., Shahid, M. J., ... & Din, F. U. (2022). Overview of Bacterial Diseases in Poultry and policies to control disease and antibiotic resistance. *BULLET: Jurnal Multidisiplin Ilmu*, 1(01), 19-25.
- 46. Tariq, S., Samad, A., Hamza, M., Ahmer, A., Muazzam, A., Ahmad, S., & Amhabj, A. M. A. (2022). Salmonella in Poultry; An Overview. *International Journal of Multidisciplinary Sciences and Arts*, 1(1), 80-84.
- Wu, X., Fan, H., Wang, W., Zhang, M., Al-Bahrani, M., & Ma, L. (2022). Photochemical synthesis of bimetallic CuNiS x quantum dots onto gC 3 N 4 as a cocatalyst for high hydrogen evolution. *New Journal of Chemistry*, 46(31), 15095-15101.
- Yang, X., Hesami, M. D., Nazemipool, E., Bahadoran, A., Al-Bahrani, M., & Azizi, B. (2022). Fabrication of CuCo2S4 yolk-shell spheres embedded with S-scheme V2O5-deposited on wrinkled g-C3N4 for effective promotion of levofloxacin photodegradation. *Separation and Purification Technology*, 301, 122005.

Adil Sana | https://journal.mediapublikasi.id/index.php/bullet | Page 842

BULLET : Jurnal Multidisiplin Ilmu Volume 01, No. 05, (Oktober –November) 2022 ISSN 2829-2049 (media online) Hal 840-843

49. Zarei, M., Taghizadeh, M. R., Moayedi, S. S., Naseri, A., Al-Bahrani, M., & Khordehbinan, M. W. (2022). Evaluation of fracture behavior of Warm mix asphalt (WMA) modified with hospital waste pyrolysis carbon black (HWPCB) under freeze–thaw damage (FTD) at low and intermediate temperatures. *Construction and Building Materials*, *356*, 129184.