Poultry Weight Optimization

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Abstract

This research addresses the limitations inherent in current poultry weight prediction models. Existing models primarily rely on the age of chickens, resulting in inaccurate and insufficient predictions. As the industry evolves, precision in weight estimation becomes increasingly critical for stakeholders seeking to make informed decisions. Therefore, there is a growing demand for comprehensive models that incorporate additional variables beyond age. This study aims to enhance the accuracy of poultry weight predictions by employing machine learning techniques that utilize a diverse range of factors. By doing so, it seeks to provide more reliable estimates of chicken weight, thereby supporting better decision-making within the industry.

Keywords
Machine Learning, Weight Estimation, Recurrent Neural Network (RNN), Long-Short Term Memory (LSTM)

Biographies
Waleed Mirdad is an Associate Professor of Industrial Engineering at King Abdulaziz University. He earned his Bachelor of Science and Master of Science degrees in Industrial Engineering and subsequently completed his doctoral studies in the Industrial Engineering department at Oregon State University in 2018. His areas of expertise lie in Machine Learning, Stochastic Processes, and Production Planning and Control. Dr. Mirdad's research primarily centers around the application of machine learning techniques in the field of production.

Areeb Abubaker is a senior industrial engineering student at King Abdulaziz University. She has a strong interest in machine learning applications within industrial systems and has worked on projects such as optimizing production systems with artificial neural networks and reducing energy consumption in additive manufacturing. Areeb also contributed to AI research at the University of Edinburgh, enhancing scientific text classification. A dedicated and continuous learner, she has received multiple awards for her innovative projects.

Khadijah Bashatah is a motivated and dedicated senior industrial engineering student at King Abdulaziz University with a strong academic foundation in industrial engineering principles, techniques, and methodologies. Khadijah demonstrates excellent analytical and problem-solving abilities with a commitment to continuous learning and professional growth.

Ruba Aljedani is a senior industrial engineering student at King Abdulaziz University with a strong foundation in operations research, statistical analysis, and strategic planning. She is a fast learner and detail-oriented problem-solver who commits to bringing new ideas and analytical talents to apply in real-world situations. Ruba has a keen interest in consulting and artificial intelligence.