Development and Application of Artificial Intelligence and Automation Technology in Poultry Farms

Abstract

Taiwanese poultry houses are gradually changed from outdoor farming to indoor rearing. To provide poultry with suitable growth conditions, many environmental control systems have been installed within poultry houses. In recent years, environmental sensing and automatic control systems have been applied for achieving automated control of the poultry house environment. For today's automated poultry houses, some challenges need to be overcome, such as the risk of disease transmission from wild birds and the need for frequent human access to the poultry houses to monitor the condition of the poultry. This report will provide an introduction and discussion of the technologies developed by our team in recent years. These technologies include: AI laser bird repeller, AI smart weight scale, chicken laser response assessment system, poultry health warning technologies.

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RESEARCH AREAS AND EXPERTISE
- General area: Micromanufacturing and Automation
- Specific area: Sensing, Actuator and AI applications

AWARDS AND RECOGNITION
- Outstanding Teacher in Industry-Academic Collaboration Award, National Chung Hsing University, 2022 and 2023
- Honorable Mention, 2021 CTCI Foundation AI Innovation Competition, 2021
- Guess Editor, Micromachines, Special Issue "NEMS/MEMS Devices and Applications" and "MEMS/NEMS Devices and Applications, 2nd Edition"

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