

Development of a GUI Application for a Livestock Feed Raw Material Moisture Content Measurement System Based on Camera Image Data

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ABSTRACT

This study aims to develop a Graphical User Interface (GUI) application for a moisture measurement system based on camera image processing. The system uses a webcam and HSV color detection to identify red markers in the measurement area. The centroid method and Homography Transformation are applied to determine and stabilize the measurement area. The application is integrated with a CNC 3-axis device and moisture sensor through serial communication. The results show that the system can display real-time images, detect markers, control device movement, and store measurement data automatically.

Keywords : Graphical User Interface, image processing, Homography Transformation, centroid, moisture measurement.