

Vision-Based Automatic Tilapia Weighing System

梁有燈, 邱奕契

Mechanical Engineering

Engineering

chiou@chu.edu.tw

Abstract

In this study, we presented an automatic raw fish handling system to speed up fish cleaning and weighing. The proposed fish weighing system used a camera to capture projected images of fishes. Applying image processing techniques, physical properties of fishes, such as length, width, and area were obtained. Followed by regression analysis, weight-length, weight-height, and weight-area relationships were derived. Analysis results of forty tilapias show that coefficient of determination of the regression equation relating weight and area is 0.9724. The high value suggests that a tilapia's weight is highly correlated with its projected area. Therefore, use a tilapia's area to estimate its weight is justifiable.

Keyword : Machine Vision, Fish Weighting, Regression Analysis, Tilapia.