Automated Raw-Fish Processing System Using Machine Vision

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Abstract

This work describes a novel machine vision automatic raw-fish handling system that accelerates fish cleaning and weighing. The proposed weighing system uses a camera to capture fish images. The physical properties of fish, such as length, width, perimeter and area, were obtained via image processing techniques. The weight-area relationships were derived using regression analysis. Analytical results for 50 tilapia demonstrate that the coefficient of determination of the regression equation related to weight and area is 0.9303. This high value suggests that tilapia weight is strongly correlated with its area. Therefore, tilapia area can be used to estimate weight.

Keyword：Automated Raw-Fish Processing, Machine Vision, Weight-Area Relationships, Tilapia