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Control System

Design and Build a Vaname Shrimp Sorting System Based on Image Processing

Rancang Bangun Sistem Sortir udang Vaname Berbasis Image Processing

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Vannamei shrimp is a species of shrimp that has high economic value. In the process of trading vaname shrimp, there are different price classes. Determination of the price class of vaname shrimp is based on the size of the shrimp. But in the post-harvest process, the sorting of vaname shrimp is still done manually, namely by placing the white shrimp on a flat table and then separating it by size so that it takes a long time and the level of accuracy of the sorting process also becomes imprecise, as is done by cultivating in the coastal area of Madura, this is due to the limitations of available shrimp post-harvest processing equipment. In addition, the limited supply of electrical energy for the coastal area of Madura is also another factor that hinders the post-harvest process of vanname shrimp. The purpose of this study is to design and create a vannamei shrimp sorting system based on image processing. In processing this shrimp image using the Background Subtraction method. The Background Subtraction method is used as a separator between the object and the background. The sorting process is based on the size detection of shrimp by using the blob detection algorithm. BLOB (Binary Large Object) detection is an image segmentation method based on region growing. The goal is to analyze textures specifically and accurately. Because blob detection distinguishes colors that have thin gradations. Based on the tests that have been carried out, the average accuracy of the system in sorting vannamei shrimp is in the range of 90%.

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