Implementasi Fuzzy Logic Mamdani Untuk Identifikasi Kematangan Buah Kelapa Sawit Menggunakan Ruang Warna Red-Green-Blue dan Ekstraksi Ciri

Ronaldo Marpaung
Program Studi Teknik Elektro, Fakultas Sains & Teknologi
Universitas Teknologi Yogykarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail: atronaldat@gmail.com

ABSTRACT

Fuzzy logic is a method of reasoning used to solve problems that contain doubts (fuzzy). Fuzzy inference system (FIS) is a method with fuzzy logic rules that began being developed in various fields such as classification, control systems, and various other systems. This study applied FIS to determine the maturity level of oil palm fruit (Elaeis guineensis Jacq) by classifying the oil palm fruit colour. This study aims to apply FIS in classifying the level of colour maturity of oil palm fruit using the hue and value features approach. The three variables consist of 2 input variables and 1 output variable. The input variables are hue and value variables, whereas each input variable has every parameter, namely the Maturity and Raw parameters. The minimum and maximum value become the output variable with two maturity levels, namely Maturity and Raw. This study indicates that the system accuracy rate obtained from testing two types of oil palm fruit maturity is 91%.

Keywords: *Fuzzy inference system, Mamdani, Feature Extraction, Segmentation.*