Abstract

The utilize of technology in Indonesia has occurred in line with the industrial revolution 4.0. Indonesia, which is located in the tropics, produces wealthy natural resources, one of which is grapes. Technologybased utilization is capable of be done to simplify work, incrfacilitate accuracy and save resources. The application of technology is done by means of automatically sorting grapes from the level of ripeness of the fruit based on color. One of the ripeness levels of grapes can be chosen from the color of the fruit. The TCS3200 sensor and Arduino UNO can be used as the main tool combined with the KNN (K-Nearest Neighbor) algorithm to sort grapes based on the maturity level. The TCS3200 sensor that has been validated will detect the color of the grapes then the KNN algorithm will scan and classify based on the closest point of color on the grapes to determine whether the grapes are ripe or still unripe. The combination of the main tool and the KNN algorithm in sorting grapes successfully implemented and result an accuracy of 85%.

Kata kunci : grape fruits, colour detection, classification, arduino uno, k-nearest neighbor