

Comparison of Support Vector Machine and Friis Equation for Identification of Pallet-Level Tagging Using RFID Signal

Choong Chun Sern, Ahmad
Fakhri Ab. Nasir, Anwar P. P.
Abdul Majeed, Muhammad
Azzat Zakaria, Mohd Azraai
Mohd Razman

*Innovative Manufacturing,
Mechatronics and Sports Lab
(iMAMS), Universiti Malaysia
Pahang, Pahang, Malaysia*

Azura Azmi

*Strategic & Planning Lead, Inkjet
Supplies Operations, HP Malaysia
Manufacturing Sdn.
Bhd., Pulau, Pinang, Malaysia*

Abstract:

Pallet-level tagging placement using the Radio Frequency Identification (RFID) system that clusters the support vector machine (SVM) and the Friis propagation equation is suggested. SVM and Friis are used to train RSSI for pallet-level tagging and the interaction between RSSI and distance is built to define RSSI accuracy. In this paper, the contrast with the Friis transmission equation and SVM by using RFID reading extracts to discern pallet-level tagging to estimate the pallet-level of the actual level has been shown. With compare the Friis model, a higher rating accuracy of 90,52 percent and 90,17 percent of the classification accuracy in train and test data has been demonstrated in the Linear-SVM model.

Author Keywords

RFID, Support Vector Machine, Friis Transmission Equation, Pallet-level Tagging