

Abstract

Utilization of IoT has developed in various fields. Especially in the field of smart watches. Manufacturers are competing to create smart watches (Smart Watch) combined with IoT by placing various sensors. Of course the use of various features on smart watches will produce data that can be seen on the watch directly or with smart phone devices that are synchronized with the watch. smart hand. However, to access the data, it is necessary to conduct security testing by means of Authentication to the user so that the data issued on the Smart Watch is the user's original data. In this final project, a proof is made of whether temperature data from a smartwatch with a temperature sensor MLX90614 can be used as an authentication medium by processing temperature data with machine learning. The smartwatch made will use the Wemos d1 mini microcontroller because the component already has wifi which can be used for sending temperature data from the MLX90614 sensor online which can later be extracted and then classified with ANN-FF to determine the accuracy and evaluation value of the temperature data. The temperature data will later be displayed on a 0.66 Inc. OLED LED screen that is connected to the wemos d1 mini. The data that has been extracted will be classified using ANN-FF (Artificial Neural Network Feed Foward) with calculated accuracy, F1 Score, Precision Score, and Recall Score shows a value or score that is not good, it is proven that the calculation of the value from Accuracy to Recall Score with Test Size Data Testing 40% Training Data 60% showed an increase in the score, for accuracy increased by 4 %, F1 Score 2 %, Precision Score 1 %. Meanwhile, the Recall Score shows the same score. On the other hand, Test Size Testing is broken down by 10%. Testing data 90%. Training data shows lower scores, 37% Accuracy, 18% F1 Score, 12% Precision Score, 33% Recall Score.

Keywords: smart watch, MLX90614, temperature sensor, wemos d1 mini, entropy feature selection, ann-ff (artificial neural network feedforward), lcd oled 0.66 inc