
Abstract

Sensor network are used in many fields. Like the transportation sector especially railway transportation, already widely sensor used both in smooth travel and means maintenance for vehicle safety. In this final project, build the tool to find out inertial response of rail using (Inertial Measurement Unit) IMU sensor for the distinguish of train type using Normalized Cross Correlation method. MQTT protocol used to transmission data, and signal processing Complementary filter utilized to got angle change based on rail vibration from train. In this final project, the tool put on beside the rail with a distance of 20 meters or along of the bogie train. In this final project, Normalized Cross Correlation value used to determine similarity signal based on inertial response are between 0.62-1. Based on experiments conducted, difference between vehicle speed result the different inertial response, Argo Parahyangan and Ciremai trains had a same category because it has a same speed. Keywords: Similarity Signal, Complementary filter, MQTT