

ABSTRACT

CV. Maemunah Majalaya is one of Textile Industry in Indonesia, they produce woven fabrics which will be exported to Japan. To maintain the quality it needs quality control such as inspection process. The inspection process of woven fabric still using traditional method that makes unbalance between inspection capacity and production volume. The production volume of fabric is more than 20.000 meters of fabric that should be produced every week but there is just four inspection station with two person in each station and the capacity of each station is 23 second perscreen. It caused the massive bottleneck in inspection station it is affect to the time for management to deciding strategy for fulfilling order just in time and shipment delays. In this research automation system with image processing technique and artificial neural network were used to optimize inspection process by decreasing inspection time and increasing the detection rate. Neural network models are preferred for image-understanding tasks because of their parallel-processing capabilities as well as learning and decision making abilities. The input for neural network model is come from the GLCM and edge feature extraction. The purposed method provide better result in classifying fabric defect. Using 90 data that divided into data test, data training and validation provide overall accuracy 83.9% and average processing time 3.4 second. Therefore, using automated fabric inspection can decrease process time 16 second.

Keywords— Automated Fabric Inspection, Defect Classification, Image Processing, Artificial Neural Network