ABSTRACT

Ceramic industry has been one of the most reliable industry sectors in Indonesia for the last few years through its positive performance sales. But, unfortunately, in last 8 years the number of imported ceramic increasing sharply, while the export always decrease even it is not significant in order to fullfil the national ceramic demand. According to *Asosiasi Aneka Keramik Indonesia* (ASAKI), Huge number of import mostly originated from China, Thailand, and Vietnam because it is very cheap and have better quality than Indonesian domestic product. Quality need to be increase because high level of quality produces high customer satisfaction, which usually supports for high selling price and also cheaper production costs. Ceramics inspection in Indonesia still done manually. Therefore, a visual inspection system with digatal imagery can be an effective solution to the problem. Digital image processing can be used to extract various features of image. The process runs automatically to minimize human intervention and expected to replace the inspection process which is still done manually. In this research, focuses on designing automatic classification system for ceramics defects inspection based on image processing using Naive Bayes Classifier. The system proved that can classify five different classes such as non-defect ceramics, scratch, chip off, dry spot, and crack. It obtained 65.60% of accuracy.

Keywords: Machine Learning, Image Processing, Naive-Bayes Classifier, Visual Quality Inspection