ABSTRACT

Geology is a science about whcih study about anything about Earth and all matter ever existed. One of goelogy's scope is Sub-fossil Investigation, it's talk about the rest of organism that can be recognized from the old times. One part which commonly investigated is Teeth. Teeth is the body part located inside the mouth. One of tooth's part is Enamel can be scraped up. Enamel has a wear pattern which match with human age and eating habbit. The wear pattern is one way of sub-fossil identification.

Conventional sub-fossil investigation system done by the experts observe the sub-fossil's carbon content to identificate the sub-fossil. In this final assignment, has made a system to make age range and tooth position identification using image processing in MATLAB software. The system provide fast and efficient sub-fossil identification process. The system using Discrete Cosine Transform extraction method and Decision tree classification.

This final assignment using 130 data to test the system and 140 data to train the system. It got 84.4156% of level of accuracy for age range sub-fossil identification from two data classes which are 100 data from 17-25 class and 30 data from 25-35 class. And the system got 69.2308% of level of accuracy for molar position sub-fossil identification with two data classes which are 50 data from upper molar class and 80 data from lower molar class.

__Keywords__: Human Molar Sub-fossil, Discrete Cosine Transform (DCT), Decision tree, Matlab.