

## ABSTRACT

Irregular eating patterns and unhealthy ( too sour , spicy , and not clean ) can trigger the disease in the human digestive organs , such as esophagus , stomach , and colon . Example of a disease that can arise is Gastritis and Haematemesis . Gastritis is a disease characterized by the appearance of gastric inflammation ( sores ) on the lining of the stomach wall . While haematemesis is the appearance of bleeding in the upper gastrointestinal tract . Both of these disease can be determined by examination of the inside of the stomach by inserting a micro camera into the stomach via the esophagus or commonly known as gastroscopy process .

Through the photograph which is derived from the gastroscopy , it can be seen how the texture of the walls of the upper digestive tract of a person. If there is inflammation ( injuries ) , that person can be expressed attacked by upper gastrointestinal diseases , such as gastritis or Haematemesis . In this thesis , an element in the image is used to obtain the characteristics of each area of injury ( inflammation ) of the stomach . Characteristic was obtained through several stages , namely the stage of image acquisition , pre-processing , feature extraction method using labeling, BLOB ( Binary Large Object ) , Hue analysis , and the last is classification stage using Fuzzy Logic method .

In this final project, using BLOB and Hue analysis as a feature extraction method and classification using Fuzzy Logic method, obtained a total accuracy rate is 90.05%. With the normal image accuracy rate is 100%, the image of acute gastritis is 84.61%, the image of chronic gastritis is 77.77%, and the image of haematemesis 100%.

Keywords: Gastritis, gastroscopy, Binary Large Object, Labeling, HSV, Fuzzy Logic.