

## **ABSTRACT**

Each vehicle has a vehicle identification plate that contains a number identity which distinguishes between one vehicle to another. Vehicle license plate recognition can be used in various systems such as security systems, highway systems and parking systems without having to create a new identity.

Each state has different license plate standards, including Indonesia. Several studies using different systems have been made, but the number plate is used in contrast to the characteristics of Indonesian plate. Therefore be studied in this thesis number plate detection system in accordance with the characteristics of the Indonesian plate.

Plate detection system made using morphological operations and the characteristics of the plate. Feature extraction using grid distribution system. Comparisons were made between KNN classification algorithm and Neural Networks. Optimization is done on the classification algorithms using genetic algorithms. From the test results obtained the overall system accuracy 92.31% for KNN and 88.46% for ANN-BP with a video input.

**Keywords: license plate, KNN, Neural Networks, Genetic Algorithms**