## ABSTRACT

Parking space is one of the important components of public facilities, where a good parking lot supports the optimization of public facilities services in the community. A good parking lot is usually equipped with a parking system. The parking system that is widely applied now is a conventional parking system where the system has several shortcomings, namely the existence of embezzlement of parking money by individuals. So it is important to design an automation in the number plate-based parking system as a vehicle's unique identity to overcome these deficiencies.

In this final project discusses the introduction of vehicle number plates using the K-Nearest Neighbor method. Accuracy results obtained from this study amounted to 96.6% with optimal parameters used are Gaussian filters, 61 threshold values and k = 3. Accuracy results for field conditions obtained from this research are 97% with an optimal distance of 50 cm, angle 40° and intensity light at 1000 -1500lx.

Keyword: Clasification, K-Nearest Neighbor, license plate