Abstrak

Bridges function as structures built to cross rivers and have a role in smooth mobility. Damage to bridges, which are often caused by vibrations from heavy vehicles passing through, can have serious impacts on their safety and functionality. Structural health monitoring (SHM) is a science that aims to identify and monitor damage to bridges by utilizing integrated sensors. These sensors produce data that is then analyzed to make decisions that support early warnings regarding repairs, especially in the face of reduced capacity or structural damage. So a detection object is needed to recognize and detect trucks, in addition, the purpose of this study is to determine the ability and implement truck detection in the architectural model, namely YOLOv8, which is expected to have light computing and good detection capabilities. The test results on several truck categories showed an mAP of 99.4% in certain truck categories. However, the comparison of object detection for classification based on category is still not optimal. The system is only able to detect well for categories 1 and 2, while other categories (3, 4, 5) still show less than satisfactory results. This failure is due to the limited amount of data in these categories.