WORK SAFETY EQUIPMENT DETECTION SYSTEM USING YOLO ALGORITHM

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ABSTRACT

In industries such as construction, manufacturing, mining, and others, occupational safety and health (K3) is very important, therefore supervision in the use of occupational safety equipment is very important. Manual supervision will take a lot of time and is less efficient. The development of the era has supported the existence of automatic supervision technology through computer vision. YOLO (You Only look Once) is one of the object detection algorithms that is famous for its fast and accurate capabilities. This study aims to recognize work safety objects in the form of project helmets and project vests using YOLO. There are several stages that must be passed, namely data collection and labeling, YOLO model training, and system testing and evaluation. The success rate of detection of the use of K3 safety equipment is 100% with an average confidence value of 0.78. The level of lighting greatly affects the success rate of detection, for minimal lighting (lux 0) only a success rate of 10% is obtained.

***Keywords**: Computer Vision, K3, YOLO*