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## Object detection in factory based on deep learning approach

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### Abstract

Manufacturing systems need to be highly adaptive and flexible to meet heterogeneous customer requirements and require fast and accurate object identification. This paper presents the implementation of deep learning for the object detection in a factory in which images of machines are used to train four models. For each model, three trials with different hyperparameter configurations are performed. After the training, evaluations based on the loss curves, mean average precision curves, and performance metrics are carried out. Finally, the trained models are tested with a video in order to select the model with the best detection performance and accuracy.

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