Research Project

ACCIDENT DETECTION

SEVERITY PREDICTION

ALERT EMERGENCY SERVICES

If you have two datasets, one labeled as non-accident and accident and another labeled as moderate and high severity, it may be possible to train a single model that can predict both the occurrence of an accident and its severity.

To do this, you can train a convolutional neural network (CNN) on the combined dataset, where the output of the model is a two-dimensional vector, one dimension for the occurrence of an accident and the other dimension for the severity of the accident. This is known as **multi-task learning**, where a single model is trained to solve multiple related tasks.

Alternatively, you can train two separate models, one for accident detection and another for accident severity prediction. The accident detection model would predict whether an accident has occurred or not, while the severity prediction model would predict the severity of the accident. This approach is known as single-task learning, where a separate model is trained for each specific task.

The choice between multi-task and single-task learning depends on the complexity of the problem and the available data. If the two tasks are closely related and there is limited data available, it may be better to use a multi-task learning approach to leverage the shared information between the two tasks. However, if the two tasks are significantly different or the amount of data available for each task is large, it may be better to use separate models for each task.

training a single model on two separate datasets can result in suboptimal performance.