Context

Using machine learning to train models for image recognition to determine if a driver is driving in a distracted state, which helps driver safety on the road.

Objective

The aim of the project was to build a model that would allow it to accurately identify the driver's movements as a way of determining whether he was driving in a suitable distraction. The main problem is how to build the model so that it has a high level of accuracy.

Method

My method is to use tensorflow. By migration learning, I can use convolutional neural networks and others' trained model. Then I can fine-tune the model as a way of recognising images. This method is efficient and accurate.

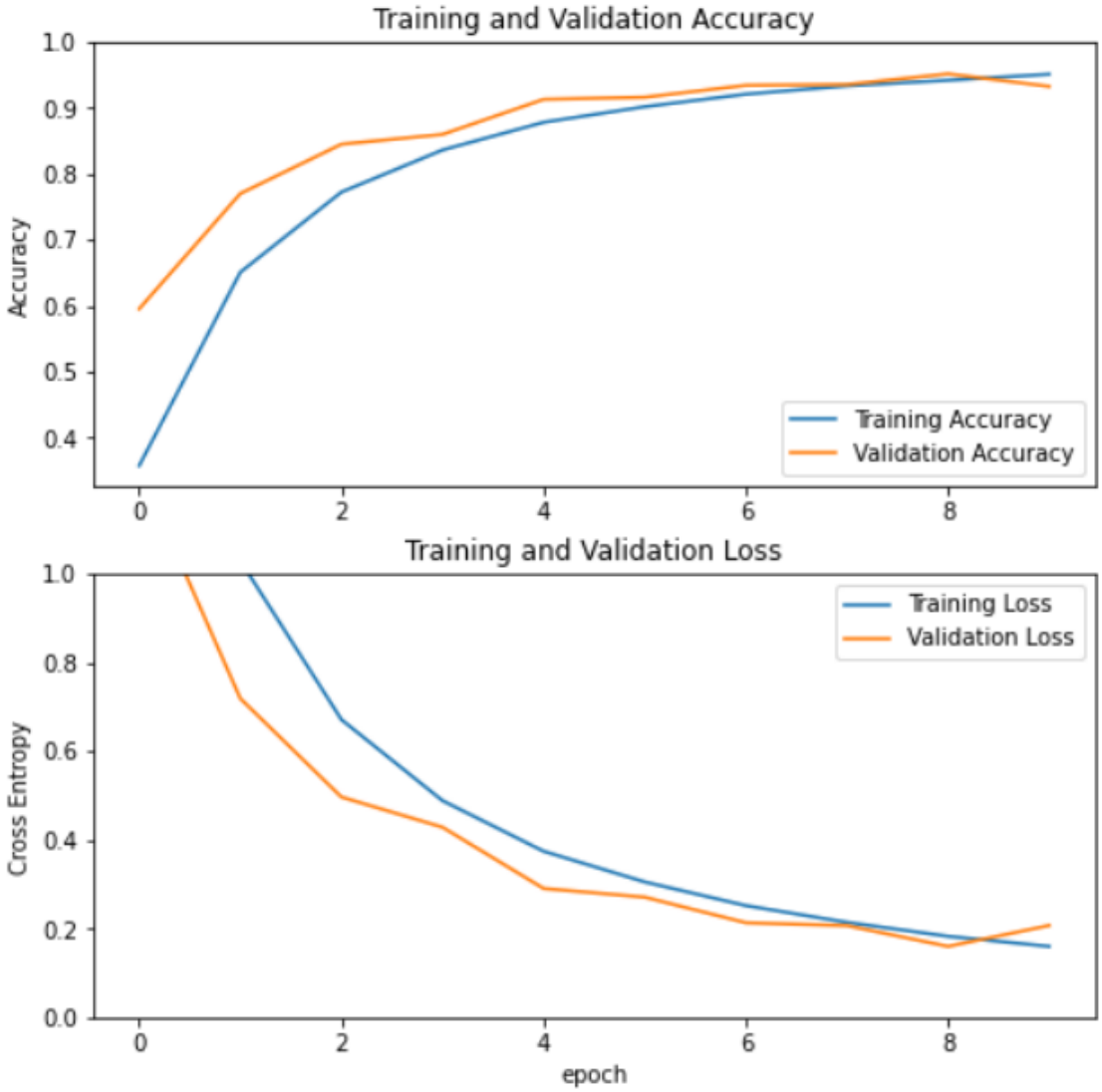
Results

By reading the best examples from the kaggle competition and the official documents of tensorflor, I chose to migrate to learn MobileNetV2 model and fine_tune it. In the end, my model was about 94% accurate in recognizing the driver's movements.

```
Epoch 10/10
692/692 [==============================] - 64s 92ms/step - loss: 0.1639 - accuracy: 0.
9499 - val_loss: 0.2070 - val_accuracy: 0.9324
```

Novelty

There is actually not much innovation in my project, but by adjusting the learning rate and the number of iterations, my model will take less time to train than the literature I have previously referenced. And I have also visualised the training process of the model.


Training and Validation Accuracy
Accuracy
Training Accuracy
Validation Accuracy
Training and Validation Loss
Cross Entropy
Training Loss
Validation Loss
epoch