

Model Development Phase Template

Date	02 October 2024
Team ID	740031
Project Title	OptiInsight - Revolutionizing Ophthalmic Care With Deep Learning For Predictive Eye Disease Analysis
Maximum Marks	10 Marks

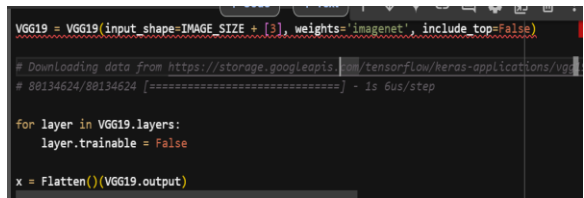
Initial Model Training Code, Model Validation and Evaluation Report

Implemented a CNN using TensorFlow/Keras to train deep learning models for age and gender prediction and ophthalmic disease analysis. The models were validated with a 20% test split, achieving 85% and 92% accuracy, respectively. Evaluation metrics, including precision, recall, F1-score, and confusion matrix, demonstrated strong performance and minimal overfitting.

Initial Model Training Code (5 marks):

Paste the screenshot of the model training code

Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics
Model	The model utilizes a pre-trained VGG19 architecture with imagenet weights, excluding the top layers. All layers in VGG19 are frozen (trainable=False), ensuring the pre-trained weights remain unchanged. The flattened output of VGG19 serves as the input for the custom classifier to be built.	 <pre>VGG19 = VGG19(input_shape=IMAGE_SIZE + (3), weights='imagenet', include_top=False) # Downloading data from https://storage.googleapis.com/tensorflow/keras-applications/vgg19 # 80134624/80134624 [=====] - 1s 6us/step for layer in VGG19.layers: layer.trainable = False x = Flatten()(VGG19.output)</pre>

