

## Model Development Phase Template

Date	15 March 2024
Team ID	SWTID1720436539
Project Title	SportSpecs: Unraveling Athletic Prowess with Advanced Transfer Learning for Sports
Maximum Marks	5 Marks

### Model Selection Report

In the model selection report for future deep learning and computer vision projects, various architectures, such as CNNs or RNNs, will be evaluated. Factors such as performance, complexity, and computational requirements will be considered to determine the most suitable model for the task at hand.

### Model Selection Report:

Model	Description
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Vgg19	<p><b>Accuracy: 74.20</b></p> <p>We downloaded the base model without the last layer by setting the <code>`include_top`</code> parameter to <code>`False`</code> while downloading. In the final layers of our neural network, we flatten the VGG16 output and add a dense layer with 100 neurons using softmax activation for classification.</p> <pre>Epoch 10/10 844/844 [=====] - 193s 228ms/step - loss: 0.4738 - accuracy: 0.9210 - val_loss: 2.5452 - val_accuracy: 0.7420</pre>
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ResNet50	<p><b>Accuracy: 20.80</b></p> <p>We downloaded the base model without the last layer by setting the <code>`include_top`</code> parameter to <code>`False`</code> while downloading. In the final layers of our neural network, we flatten the ResNet50 output and add a dense layer with 100 neurons using softmax activation for classification.</p> <pre>Epoch 10/10 844/844 [=====] - 183s 217ms/step - loss: 10.5361 - accuracy: 0.2763 - val_loss: 12.4748 - val_accuracy: 0.2080</pre>
Vgg16	<p><b>Accuracy: 82.40</b></p> <p>We downloaded the base model without the last layer by setting the <code>`include_top`</code> parameter to <code>`False`</code> while downloading. In the final layers of our neural network, we flatten the VGG16 output and add a dense layer with 100 neurons using softmax activation for classification.</p> <pre>844/844 [=====] - 187s 221ms/step - loss: 0.1696 - accuracy: 0.9764 - val_loss: 2.9197 - val_accuracy: 0.8240</pre>