**Model Development Phase Template**

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| Date | July 8 2024 |
| Team ID | SWTID1719935963 |
| Project Title | |  | | --- | | Automated Weather Classification using  Transfer Learning | |
| 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:**

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| **Model** | **Description** |
| VGG19 | Accuracy : 86.67  We downloaded the base model without the last layer making include\_top parameter to false while downloading  In the final layers of our neural network, we flatten the VGG16 output, add a 1024-neuron dense layer with ReLU activation, and a final dense layer with 5 neurons using softmax for classification. |
| ResNet50 | Accuracy : 64.33  We downloaded the base model without the last layer making include\_top parameter to false while downloading  In the final layers, the VGG16 output is flattened, followed by dense layers with 250 and 100 neurons using ReLU activation. The final dense layer with 5 neurons and softmax activation produces a probability distribution for classifying into 5 categories |
| VGG16 | Accuracy : 93.66  We downloaded the base model without the last layer making include\_top parameter to false while downloading  In the final layers of our neural network, we flatten the VGG16 output, add a 1024-neuron dense layer with ReLU activation, and a final dense layer with 5 neurons using softmax for classification.    As this model gives us the best accuracy we are using this model |