Model Development Phase Template

Date	15 March 2024
Team ID	SWTID1720333657
Project Title	Wce Curated Colon Disease Classification Using Deep
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
VGG16	VGG16 is a deep convolutional neural network (CNN) architecture renowned for its effectiveness in image recognition. It employs a repetitive stacking of small convolutional filters with rectified linear units (ReLUs), gradually extracting increasingly intricate features from images. This architecture, while not the state-of-the-art, played a pivotal role in advancing computer vision research due to its clear design and strong performance. VGG16 serves as a foundation for many contemporary image classification and object detection tasks.
ResNet-50	ResNet50 is a deep convolutional neural network architecture known for its image recognition capabilities. It utilizes 50 residual blocks, a clever design that allows the network to learn from past layers and avoid vanishing gradients - a common challenge in deep learning. This "shortcut" learning enables ResNet50 to achieve high accuracy while maintaining a complex structure. Often pre-

	trained on massive datasets, ResNet50 serves as a powerful foundation for fine-tuning in specific computer vision tasks like object detection or image classification.
EfficientNet	EfficientNet is a cutting-edge convolutional neural network architecture designed for optimal performance in image recognition. It achieves state-of-the-art accuracy while maintaining computational efficiency. Unlike traditional models, EfficientNet utilizes a compound scaling method, dynamically adjusting depth, width, and resolution for a desired accuracy-efficiency trade-off. This offers a family of models (B0-B7) suitable for various computing resources. B0 prioritizes speed, while B7 maximizes accuracy. This versatility makes EfficientNet ideal for tasks like object detection and image classification on diverse devices