Model Development Phase Template

Date	15 March 2024
Team ID	SWUID20240034617
Project Title	CovidVision : Advanced COVID-19 Detection for Lung X-rays with Deep 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:

Model	Description
Convolutional Neural Network (CNN)	CNNs are a type of deep learning architecture that have been highly successful in computer vision tasks, including image classification and medical image analysis. They are particularly well-suited for tasks that involve extracting spatial features from images, such as identifying patterns or shapes. In the context of CovidVision, a CNN could be trained to identify the characteristic features of COVID-19 pneumonia in lung X-rays. CNNs typically have good performance and can be relatively efficient to train, making them a strong candidate for this project.
ResNet (Residual Network)	ResNets are a specific type of CNN architecture that have achieved state-of-the-art results on a variety of computer vision tasks. They address the problem of vanishing gradients, which can hinder the training of deep neural networks.

	ResNets use skip connections to allow the network to learn the identity function, which can help to improve the overall performance of the model. For CovidVision, a ResNet could potentially achieve higher accuracy than a standard CNN, especially if the dataset is large and complex. However, ResNets can be more complex and computationally expensive to train than standard CNNs.
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