Model Development Phase Template

Date	17July 2025
Team ID	739816
Project Title	Galactic Gazetteer:A comprehensive dataset of planet images.
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
CNN	A **Convolutional Neural Network (CNN)** is a specialized type of deep learning model primarily used for processing and analyzing visual data such as images and videos. Unlike traditional neural networks, CNNs are designed to automatically and adaptively learn spatial hierarchies of features through the use of multiple building blocks, including convolutional layers, pooling layers, and fully connected layers. The convolutional layers apply filters (also called kernels) that slide over the input image to detect patterns such as edges, textures, or shapes. These features become more abstract and complex as the data moves deeper into the network. Pooling layers reduce the dimensionality of the data, helping to make the computation more efficient and the model more robust to slight variations in input. Finally, the fully connected layers interpret the extracted features and perform classification or regression tasks. CNNs

	have proven highly effective in tasks like image classification, object detection, and facial recognition due to their ability to capture local and spatial dependencies in images.