Model Development Phase Template

Date	20 July2024
Team ID	SWTID1720163161
Project Title	Hydration Essentials: Classifying Water Bottle 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
Model 1 (CNN)	The model used in the water bottle classification project is a Convolutional Neural Network (CNN) designed to accurately categorize images of water bottles based on their water levels, such as empty, half-full, and full. The architecture of the CNN typically consists of multiple convolutional layers that automatically extract features from the images, followed by pooling layers that reduce the spatial dimensions and help retain essential information. This is complemented by fully connected layers that perform the final classification. The model benefits from preprocessing techniques, including resizing, normalization, and data augmentation, ultimately improving the model's performance and generalization capabilities. The training process involves optimizing the model using a suitable loss function and an optimizer, enabling it to learn to recognize and classify the varying water levels in the bottles effectively.