Data Collection and Preprocessing Phase

Date	15 March 2025
Team ID	739945
Project Title	Virtual Eye – Lifeguard for Active Swimming Drowning Detection
Maximum Marks	2 Marks

Data Collection Plan & Raw Data Sources Identification Template

Elevate your data strategy with the Data Collection plan and the Raw Data Sources report, ensuring meticulous data curation and integrity for informed decision-making in every analysis and decision-making endeavor.

Data Collection Plan Template

Section	Description
Project Overview	The primary goal of this project is to develop an AI-powered drowning detection system, "Virtual Eye", that actively monitors swimming environments to identify potential drowning incidents in real time. The system utilizes computer vision and deep learning—specifically the YOLOv3 object detection algorithm—to analyze video footage, detect human presence and behavior, and differentiate between normal swimming and distress situations. The objective is to enhance pool safety by providing early warnings for drowning incidents, reduce response time for lifeguards, and ultimately save lives through automated surveillance.
Data Collection Plan	The goal of this data collection plan is to gather a diverse and high-quality dataset of swimming activities and potential drowning scenarios to train, test, and evaluate the YOLOv3-based drowning

	detection system. The dataset should include various environmental conditions swimmer demographics, body poses, and behavior patterns to ensure the model can generalize effectively and accurately detect distress across a wide range of real-world situations.
Raw Data Sources Identified	**Public Surveillance Footage**: Open-source or publicly shared swimming pool surveillance videos and drowning datasets available online are used to gather realistic scenarios for training and evaluation.

Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions
Kaggle	The dataset contains various images of swimming and drowning.	swimming-and-drowning-dataset	txt	388MB	Public