Project Initialization and Planning Phase

Date	12 JULY 2024
Team ID	740069
Project Title	Lymphography Classification Using ML
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal report aims to revolutionie the classification of lymphography using machine learning, boosting efficiency and accuracy in diagnostic processes. It tackles system inefficiencies, promising better operations, reduced risks. Key features include a machine learning-based classification model, Real-time processing, Scalability and User-friendly interface.

Project Overview	
Objective	The primary objective is to develop a machine learning model capable of accurately classifying lymphography reports into distinct categories based on the presence and type of lymph node abnormalities.
Scope	The project comprehensively assesses and enhances the model's performance using standard metrics, implement a user-friendly application for radiologists to use the model in a clinical setting.
Problem Statement	
Description	Lymphography is a critical diagnostic tool for visualizing the lymphatic system and identifying abnormalities. However, the interpretation of lymphography is complex and subject to variability between radiologist.
Impact	Solving these issues will result in improved operational efficiency, reduced risks, and an overall enhancement in reducing human error and inter-radiologist variability.
Proposed Solution	
Approach	Employing machine learning techniques to analyze and extract relevant features from the records, creating a dynamic and adaptable application which is scalable, secure and easy to use.

Key Features	- Implementation of a machine learning-based classification model.
	- Real-time processing: provides quick classification results to aid timely decision making. - Easy-to-use application for non-technical medical professionals.

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv

Resource Requirements