Project Initialization and Planning Phase

Date	01 May 2025
Team ID	739870
Project Title	CovidVision: Advanced COVID-19 Detection From Lung X-Rays With Deep Learning Using IBM Cloud
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	To develop deep learning model capable of accurately detecting COVID-19 infections from lung X-ray images, techniques, hosted on IBM Cloud. CovidVision will streamline the diagnosis process, reduce the burden on medical staff, and contribute to early detection and timely treatment of COVID-19 cases.
Scope	The project involves building and training a deep learning model performance using metrics such as accuracy deploy, and serve the model. It includes data the data COVID-19 positive, normal, other conditions. To upload X-rays and get predictions in real time.
Problem Statement	
Description	Early detection and timely treatment of COVID-19 cases infections from lung X-ray images, healthcare professionals with a fast, accurate, and cloud-accessible diagnostic.
Impact	Solving this problem would enhance diagnostic accuracy, reduce doctors' workload, speed up treatment decisions, leading to earlier intervention and better patient outcomes.
Proposed Solution	
Approach	Develop and train a deep learning model (primarily a CNN) using lung X-ray image datasets. It includes data augmentation, model

	optimization, performance evaluation and deployment
Key Features	-Automatically detect signs of COVID-19 from chest X-ray images - high accuracy with reduced false positives/negatives. - Integration for radiologists to confirm or correct predictions.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask, TensorFlow
Libraries	Additional libraries	e.g., NumPy, OS
Development Environment	IDE, version control	e.g., Google Colab, VS code
Data		
Data	Source, size, format	e.g., Kaggle dataset, 10,000 images