

Project Initialization and Planning Phase

Date	07-07-2024
Team ID	SWTID1720433291
Project Title	CovidVision: Advanced COVID-19 Detection From Lung X-Rays With Deep Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) :

In response to the critical challenge of efficiently managing patient diagnosis during the surge of COVID-19 cases, we propose the development and implementation of an advanced AI-powered system which utilizes deep learning algorithms to rapidly and accurately analyze lung X-rays, thereby enhancing the diagnostic workflow within hospitals. By leveraging cutting-edge AI technology, CovidVision aims to expedite and improve the accuracy of COVID-19 diagnosis, ultimately enhancing patient care and outcomes during this critical period.

Project Overview	
Objective	The CovidVision project aims to develop an advanced deep learning-based AI system that can rapidly and accurately diagnose COVID-19 from lung X-ray images. This system seeks to enhance healthcare providers' diagnostic capabilities by delivering real-time, reliable results.
Scope	Create and implement an AI system for swift COVID-19 diagnosis from lung X-rays, ensuring seamless integration with healthcare IT systems and adherence to privacy regulations. Excludes other diagnostic methods and hardware.
Problem Statement	
Description	Healthcare providers need a rapid, accurate, and scalable method to diagnose COVID-19 from lung X-rays to address delays and limitations of current diagnostic methods, improve patient outcomes, and reduce healthcare system burden.
Impact	Solving the problem will enable faster and more accurate COVID-19 diagnosis, improve patient outcomes by facilitating timely treatment, and reduce the strain on healthcare systems, particularly in resource-

	limited settings.
Proposed Solution	
Approach	Using Deep Learning model to analyze the x ray images and detect covid 19 disease
Key Features	<ul style="list-style-type: none"> -Provides high accuracy rate -Faster than traditional methods -Scalable -cost effective

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	16 CPU cores, T4 GPU
Memory	RAM specifications	8GB
Storage	Disk space for data, models, and logs	1 TB
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	Tensorflow
Development Environment	IDE, version control	Jupyter Notebook, Git
Data		
Data	Source, size, format	Kaggle dataset, >10,000 images, csv and img