PROJECT INITIALISATION AND PLANNING PHASE

Date	4 July 2024
Team ID	Team-739757
Project Title	Medical Cost Prediction
Maximum Marks	3 Marks

Project Proposal (Proposed Solution)

The Solution is to Prediction of Medical Cost using Machine Learning involves developing a predictive model that can accurately estimate healthcare expenses based on patient data. The model utilizes various Machine learning algorithms to analyze historical medical cost data and identify patterns and relationships that can inform future cost predictions.

Project Overview	
Objective	The primary objective of the Medical Cost Prediction project is to develop a predictive model that accurately estimates the healthcare costs for patients based on various factors. This predictive capability aims to assist insurance companies, healthcare providers, and policymakers in better understanding and managing medical expenses.
Scope	Develop a predictive model to estimate healthcare costs using demographic and health data, aiming to improve cost management, resource allocation, and policy decisions while ensuring data quality and privacy.
Problem Statement	
Description	Accurately predicting healthcare costs is crucial for effective budgeting and resource allocation. Current methods fail to account for complex factors, necessitating a robust model to enhance cost control and proactive care.

Impact	The impact of accurately predicting medical cost profound across healthcare, insurance, and pc sectors. It allows for better financial planning, effic resource allocation, proactive healthcare managem and informed policy decisions. This predictive capab ultimately improves cost-efficiency, patient outcomes, and overall healthcare system sustainabili
Proposed solution	
Approach	Developing a predictive model using machine learning techniques like Linear Regression, Support Vector Machine ,Random Forest Regressor ,Gradient Boosting Regressor.
Key Features	Comprehensive Data Preprocessing and Feature Engineering, Robust Model Selection and Evaluation.

Resource Requirements

Resource type	Description	Specification /Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	2 x NVIDIA V100 GPUs
Memory	RAM specifications	8GB
Storage	Disk space for data, models and Logs	1 TB SSD
Software		
Frameworks	Python Frameworks	Flask
Libraries	Additional Libraries	Scikitlearn,matplotlib, scipy, plotly
Development Environment	IDE,Version control	Jupyter Notebook,Git
Data		
Data	Source, Size, Format	Kaggle dataset,10,000 images