Project Initialization and Planning Phase

Date	15 July 2024
Team ID	739750
Project Title	Doctors Annual Salary Prediction
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

This project aims to develop a predictive model that accurately estimates the annual salaries of doctors. By leveraging machine learning algorithms and considering various factors such as specialization, experience, location, and education, we seek to provide a reliable tool for salary prediction. This will assist healthcare organizations in financial planning, budget allocation, and offering competitive compensation packages.

Project Overview	
Objective	To develop an advanced machine learning model that accurately predicts doctors' annual salaries, considering various factors such as specialization, experience, location, and education, to aid healthcare organizations in financial planning and offering competitive compensation packages.
scope	Gather salary data and relevant factors from various sources. Clean and prepare data for analysis. Implement and compare machine learning algorithms. Optimize and validate the predictive model. Create a user-friendly interface for healthcare organizations. Provide detailed insights and reports on salary predictions and influencing factors.
Problem Statement	
Description	This project will create an advanced machine learning model to accurately predict doctors' annual salaries based on factors like specialization, experience, location, and education. The model will be deployed through an easy-to-use interface, helping healthcare organizations with financial planning and competitive compensation management.
Impact	More accurate budgeting and resource allocation. Better attraction and retention of top medical talent. Addressing salary disparities across regions and specializations. Strategic support for hiring and

	compensation. Reduced administrative burden on HR departments. Fair salaries leading to higher job satisfaction and retention.
Proposed Solution	
Approach	Use regression models to analyze historical salary data. Apply algorithms like decision trees or random forests for predictions. Account for economic factors affecting salaries. Assess location impacts on salary.
Key Features	-Type of medical field (e.g., surgery, primary care). -Demand for specialties in specific regions. -Length of practice and roles held. -Hours worked, on-call duties, patient volume.

Resource Requirements

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