Project Initialization and Planning Phase

Date	4th june 2024
Team ID	SWTID1720164961
Project Title	Early Prediction of Chronic Kidney Disease Using Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

The proposal report aims to Develop an AI-driven platform for early detection of Chronic Kidney Disease (CKD) using machine learning algorithms. This platform aims to analyze patient data comprehensively to provide timely diagnoses, improving treatment outcomes and patient care.

Project Overview	
Objective	The primary objective is to develop and deploy a robust machine learning model that can accurately detect Chronic Kidney Disease (CKD) in its early stages using patient data, thereby facilitating early intervention and improving patient outcomes.
Scope	Developing a machine learning model for early detection of Chronic Kidney Disease (CKD) using patient data, from feature selection to deployment and compliance with healthcare regulations
Problem Statement	
Description	Creating a robust machine learning system for early detection of Chronic Kidney Disease (CKD) using patient data to improve healthcare outcomes.
Impact	Enhancing early detection of CKD to improve patient prognosis and healthcare efficiency.
Proposed Solution	
Approach	Utilizing machine learning algorithms to analyze patient data for early detection of CKD.
Key Features	1. Early Detection: Implementing a machine learning model to

	identify CKD in its early stages allows for timely medical intervention, potentially slowing disease progression. 2. Risk Factor Identification : Utilizing patient demographics, medical history, and clinical biomarkers helps identify individuals at higher risk for CKD, enabling proactive management strategies. 3. Personalized Treatment Plans: Tailoring treatment plans based on individual patient data and disease progression patterns.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	2 x NVIDIA V100 GPUs
Memory	RAM specifications	16 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	pandas, numpy
Development Environment	IDE, version control	Jupyter Notebook, Git
Data		
Data	Source, size, format	Kaggle dataset, 401images