Project Initialization and Planning Phase

Date	1 August 2025
Skillwallet ID	SWUID20250194750
Project Title	Anemia Sense: Leveraging Machine Learning For Precise Anemia
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal report aims to transform anemia diagnosis using machine learning, improving both efficiency and accuracy. It addresses diagnostic limitations in current practices, offering a smarter and more accessible solution. Key features include a machine learning-based classification model and near real-time prediction capabilities.

Project Overview	
Objective	The primary objective is to revolutionize anemia detection by implementing advanced supervised machine learning techniques, enabling faster, more accurate, and scalable assessments.
Scope	The project comprehensively analyzes and enhances the diagnostic process for anemia, integrating hematological data and machine learning algorithms to create an efficient, lightweight, and interpretable diagnostic system.
Problem Statement	
Description	Inaccuracies, delays, and inconsistencies in traditional anemia diagnostic methods negatively impact clinical decision-making and patient care, particularly in resource-constrained environments.
Impact	Addressing these issues will lead to improved diagnostic reliability, timely medical intervention, and better patient outcomes—supporting healthcare systems and professionals in delivering quality care more effectively.
Proposed Solution	
Approach	Applying supervised machine learning algorithms to analyze key blood parameters (such as hemoglobin levels,etc.), enabling accurate and early detection of anemia.
Key Features	- Implementation of a machine learning-based anemia classification model.

	- Near real-time predictions to support prompt clinical decisions. - Lightweight, interpretable system suitable for deployment in low-resource settings.

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	Kaggledataset,614,csv