Project Initialization and Planning Phase

Date	27th July 2024
Team ID	740076
Project Title	FETAL AI: USING MACHINE LEARNING TO PREDICT AND MONITOR FETAL HEALTH
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project aims to develop an innovative fetal AI system to enhance prenatal care by offering real-time analysis of ultrasound images and maternal health data. Utilizing advanced machine learning algorithms, the AI will enable early detection of fetal health issues, supporting healthcare providers with accurate diagnoses and personalized treatment plans. By integrating with existing medical infrastructures, the system seeks to improve fetal health outcomes and reduce undetected abnormalities. Our solution will empower medical professionals with data-driven insights, ensuring better-informed decisions and improved patient care. This initiative sets the groundwork for future advancements in maternal-fetal healthcare, promoting global access to cutting-edge medical technologies.

Project Overview	
Objective	The goal is to enhance diagnostic accuracy and support healthcare providers with timely, data-driven insights for personalized treatment plans, reducing adverse fetal outcomes
Scope	The project involves designing AI algorithms, integrating them with existing healthcare systems, and conducting pilot testing to ensure reliability and user-friendliness in clinical settings.
Problem Statement	
Description	This project addresses the limitations of traditional diagnostic tools by developing a fetal AI system that enhances prenatal care through real-time analysis and early detection.
Proposed Solution	

Approach	Utilize machine learning algorithms trained on diverse datasets to offer real-time analysis and integrate seamlessly with existing healthcare infrastructure.
Key Features	The system will provide accurate diagnostics, a user-friendly interface for healthcare professionals, and personalized treatment recommendations.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	GPUs/TPUs, CPUs	e.g., NVIDIA A100 or Google Cloud TPUs, Intel Xeon or AMD EPYC processors
Memory	RAM, VRAM	e.g., 128GB DDR4 RAM, 32GB GPU memory (e.g., NVIDIA A100).
Storage	SSD, HDD	e.g., 1TB NVMe SSD, 10TB SATA HDD.
Software		
Frameworks	Tools for building AI models	e.g.,TensorFlow, PyTorch.
Libraries	Code collections for computations	e.g., NumPy, OpenCV, SciPy.
Development Environment	Platforms for coding and testing	e.g.,TensorFlow, PyTorch.
Data		

Data	Datasets	e.g.,Information on gestational age and fetal position.