Project Initialization and Planning Phase

Date	15 July 2024
Team ID	866654
Project Title	Thyroid disease classification using ML
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) Report

The proposal report aims to to develop a machine learning (ML) model for classifying thyroid disease patients into different categories (Normal, Hypothyroidism, Hyperthyroidism, Thyroid Nodule, and Thyroid Cancer). The model will utilize a dataset of patient characteristics, laboratory results, and medical history to support early diagnosis and treatment.

Project Overview

Objective	The primary objective of thyroid disease classification using ML is to develop a predictive model that can accurately classify patients into different thyroid disease categories (Normal, Hypothyroidism, Hyperthyroidism, Thyroid Nodule, and Thyroid Cancer) based on relevant data features.
Scope	The scope of this project is to develop a reliable and accurate ML model for thyroid disease classification, which can support early diagnosis and treatment. The project will focus on developing a predictive model that can classify patients into different thyroid disease categories based on relevant data features.

Problem Statement

Description	By addressing these challenges and developing an accurate ML model, this project aims to improve the diagnosis and treatment of thyroid disease, enabling healthcare professionals to make informed decisions and enhancing patient outcomes. Solving these issues
Impact	will result in improved diagnosis, treatment, and management of thyroid disease, ultimately enhancing patient outcomes and quality of life.

Proposed Solution

Approach	we aim to develop an accurate and reliable ML model for thyroid disease classification, which can assist healthcare professionals in making informed decisions and improving patient outcomes.
Key Features	machine learning can accurately classify thyroid disease patients and support healthcare professionals in making informed decisions.

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	8 GB
Software		
Frameworks	Python frameworks	Flask

Libraries	Additional Libraries	Scikit-learn, pandas, NumPy, matplotlib, seaborn
Development Environment	IDE	Jupiter Notebook, PyCharm
Data		
Data	Source, size, format	Kaggle dataset