

## Project Initialization and Planning Phase

Date	06 July 2024
Team ID	<b>SWTID1720158583</b>
Project Title	<b>Vitamin Vision: Unveiling The Spectrum Of Nutrient Detection</b>
Maximum Marks	3 Marks

### Project Proposal (Proposed Solution) report

This project proposal outlines a solution for **Vitamin Vision: Unveiling The Spectrum Of Nutrient Detection** using advanced deep learning techniques. The objective is to develop an effective model for detecting and classifying essential vitamins in various food samples. The scope focuses on leveraging convolutional neural networks (CNNs) to analyze images and identify vitamin content accurately. The proposal details the approach, including the design of the neural network architecture, training methodologies, and evaluation metrics. Resource requirements are specified, including computational hardware for model training, software frameworks for deep learning, and expertise in machine learning to ensure successful development and deployment.

Project Overview	
Objective	To develop a deep learning model for accurately detecting and classifying essential vitamins in food images.
Scope	To develop a deep learning model for identifying and classifying essential vitamins in food images using convolutional neural networks (CNNs).
Problem Statement	
Description	Existing nutrient detection methods are inaccurate. There is a need for

	a deep learning model to reliably identify vitamins in food images.
Impact	Solving these issues will result in improved operational efficiency, reduced risks.
<b>Proposed Solution</b>	
Approach	Employing machine learning techniques to analyze and predict vitamins in the food items that inserted into the application .
Key Features	-Implementation of a deep learning-based vitamins detection model.

### Resource Requirements

Resource Type	Description	Specification/Allocation
<b>Hardware</b>		
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
<b>Software</b>		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	Tensorflow , scikit-learn ,pandas , numpy
Development Environment	IDE, version control	Jupyter Notebook, Git
<b>Data</b>		
Data	Source, size, format	Kaggle dataset, 8,000 images