Food Nutrition Detection

Problem Definition

Goals

Business Goals

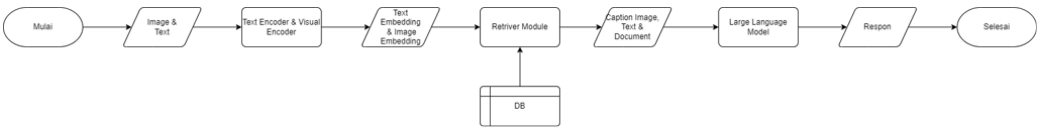
How the system can detect food through images and provide nutritional content information, and is able to provide relevant interactive responses regarding food.

System Goals

- This system is able to recognize and classify more than one type of Indonesian food in one image.
- The system is able to provide nutritional content information based on food images.
- The system is able to provide responses in a natural and easy-to-understand language style.
- The system is capable of providing multiple responses to a single image through multi-turn conversational interactions.
- The system is capable of running reasoning and question and answer (Q&A) processes related to food and nutrition information using integration with the Large Language Model (LLM).
- The system is capable of generating responses in Indonesian.
- The system is able to run without requiring an external server.

Planner

Pipeline AI



Execution

Model

- Text Encoder: Sentence-BERT
- Visual Encoder : Dinov2
- Large Language Model : LLaMA 3

Database

Weaviate

Framework

Pytorch, LangChain