Group 05

Student Name and ID

1. Emon Hossen 2211106042

2. Faheem Hasnat 2211721642

3. Kazi Tanora Akther 2132580642

Paragraph1:(about preprocessing and purpose)

We applied comprehensive preprocessing to the SKINCON, DermNet, and HERB 2.0 datasets to prepare them for multimodal training in a Vision Language Model (VLM). For SKINCON, multiple CSV files were combined into a single structured table linking image paths with metadata and labels while removing redundant or missing entries. DermNet's image folders, categorized by skin disease types, were systematically converted into DataFrames that mapped image paths to their respective disease classes for both training and testing sets. The HERB 2.0 dataset required more advanced handling, involving three CSV files containing herb, ingredient, and disease information. Using robust parsing techniques, the data was cleaned, irrelevant columns were dropped, and the files were merged to create a unified dataset highlighting the relationships between herbs, their chemical compounds, and associated diseases. Together, these preprocessing steps established a harmonized dataset that connects dermatological images with textual and biochemical information about plant-based compounds. This unified data structure provides the essential foundation for training the VLM to understand and predict how medicinal plant compounds may visually affect or treat various human skin conditions.

Paragraph2:(connection with VLM)

This preprocessing directly supports, "Vision Language Model (VLM) for Predicting the Effects of Plant Compounds on Human Skin." By transforming raw datasets into clean, interlinked image-text pairs, it creates the foundation for multimodal learning. The processed data allows the VLM to connect dermatological images with herbal and compound descriptions, enabling it to predict how specific plant-derived ingredients may influence or treat various skin conditions.