Supplementary Material for Hierarchical Prompting for Diffusion Classifiers

A FGVC Dataset Details

(i) CUB-200-2011 is a dataset that contains 11,877 images belonging to 200 bird species. It is re-organized into three-level label hierarchy with 13 orders, 38 families and 200 species. (ii) Aircraft is an aircraft dataset with 10, 000 images covering 100 model variants. It comes with three-level label hierarchy with 30 makers, 70 families and 100 models. (iii) Stanford Cars contains 16,185 images of 196 classes of cars. It is re-organized into two-level label hierarchy with 9 car types and 196 specific models. (iv) Oxford Pets contains 7349 images of 37 classes of pets. It is re-organized into two-level label hierarchy with 2 genera and 37 species.

B Apply to Various Datasets

With LLM's assistance, we can quickly create hierarchical labels for various datasets through automation. Additionally, our method can handle datasets of any granularity by building hierarchical labeled trees since granularity is relative. The figure below shows how to create such a tree with ChatGPT using CIFAR-100 as an example. First, identify the coarse-grained classes and initialize the tree (left). For a multi-level tree, repeat this process. Then, the LLM generates a hierarchical labeled tree based on the provided labels (right). After initial steps, manual corrections can be made, and the LLM will update and refine the hierarchy accordingly. In a single-person review, the label construction process for CIFAR-100 takes just 15 minutes.