Bee Classification Implementation

Total Marks: 20

Header	Points	Description
HOG Feature Extraction	2	+2 Has performed appropriate feature extraction
Train test split using X_train, X_test, y_train, y_test = train_test_split(X, y,stratify=y, test_size=0.25, random_state=27)	0.5	+0.5 Has implemented the train test split correctly.
Grid Search*	7	+1 Correct Grid Search (applied on right cut of data i.e training) +2 Has performed Grid Search on the three algorithms +3 Has commentary on why the particular hyper-params were chosen for search for each algorithm +1 Has reported validation performance for best param for each algorithm
Model Evaluation* and Comparison	2	+1 Has Computed performance on test set for all three algorithms +1 Has created a summary table for model comparison and has commentary on the results
Model Performance	2	+2 For the top two in terms of final test set performance: ● Macro F1 for Bee classification
Demonstrate Model usage on 3 examples.	1.5	+0.5 Has taken any 3 images that are not in train set and perform model prediction for the best model. +1 Has plotted the input image and print the predicted label for the best model
Code*	2	+1 Makes use of relevant tools (GridSearchCV, feature extractor, etc) as covered in class +1 Shows use of good structuring. E.g: modularized code with looping through algorithms to try,
Report	3	1 - Slapdash work: E.g. no attention paid to formatting 2 - Well presented report: E.g: good headers and subheaders 3 - Professionally Done report. E.g; Also makes use of good practices like highlighting performance of the best model on the comparison table. Plots well titled and labeled. Overall, the report is easy to follow and consume.

* These sections expect 3 or more algorithms to be tried. If only 2 algorithms have been tried, these sections will carry half the points. If fewer than 2 methods are tried, no points will be awarded.