① do fit (X_train , y_train)　　CART 3 Algorithm

max_depth = 25

max_features = None ⟶ max_features = X_train.shape[1] (N)

current_depth = 0 < 25

GINI = $1 - \sum p_i^2$ (for X_train)

best_feature_id
best_gain
best_split_value
⇒ find_best_split( ) ?

⇓

find_best_split

initial best_feature_id = None　best_gain = 0　best_split_value = 0

n_features ⇒ np.random.choice ⇒ randomly handle with data.

id

⇓

epoch ⇒

feature_id in epoch
⇓ n_features

do

feature values ⇒ X_train [: , feature_id]

unique_feature_values ⇒ delete repeated values

best_gain = 0　best_split_value = None　delete special condition

遍历 unique_feature_values

分别

令为 left　right 计算 GINI 以及比较 GINI 小值更新 best_gain

更新 best_feature_id, best_gain, best_split_vale

best_gain > 0 ⇒ 左右两树分别 fit.