Coding Python

Auto saved at 15:20:02

RUN MENU

```python
import tensorflow as tf
from tensorflow.keras.applications import MobileNetV2
from tensorflow.keras.layers import GlobalAveragePooling2D, Dense
from tensorflow.keras.models import Model
from tensorflow.keras.preprocessing.image import ImageDataGenerator

# Load pre-trained base model (MobileNetV2)
base_model = MobileNetV2(input_shape=(224, 224, 3), include_top=False,
weights='imagenet')
base_model.trainable = False  # Freeze base layers

# Add custom classification layers
x = GlobalAveragePooling2D()(base_model.output)
x = Dense(64, activation='relu')(x)
output = Dense(3, activation='softmax')(x)  # e.g., 3 classes: plastic, paper,
metal
model = Model(inputs=base_model.input, outputs=output)

# Compile model
model.compile(optimizer='adam', loss='categorical_crossentropy', metrics=
['accuracy'])

# Load waste data (structured as subfolders in 'waste_data/')
data_gen = ImageDataGenerator(rescale=1./255, validation_split=0.2)

train_data = data_gen.flow_from_directory('waste_data/', target_size=(224, 224)
batch_size=16,
                                          class_mode='categorical',
                                          subset='training')
val_data = data_gen.flow_from_directory('waste_data/', target_size=(224, 224),
 batch_size=16,
                                        class_mode='categorical',
                                        subset='validation')

# Train model
model.fit(train_data, validation_data=val_data, epochs=3)
```

Compile Result

```
Traceback (most recent call last):
  File "/data/user/0/com.kvassyu.coding.py/files/default.py", line 1, in <module>
    import tensorflow as tf
ModuleNotFoundError: No module named 'tensorflow'

[Process completed (code 1) - press Enter]
```