K-Fold Cross-Validation for Image Classification

This code implements K-Fold cross-validation for image classification using TensorFlow and scikit-learn.

Requirements:

- TensorFlow
- Keras
- scikit-learn
- OpenCV (cv2)

Instructions:

1. **Replace Data Paths:**
    - Update `train_dir` with the path to your training data directory.
    - Update `val_dir` (optional) with the path to your validation data directory (if using).
2. **Adjust Hyperparameters (Optional):**
    - Modify `n_splits` (number of folds) as needed (e.g., 3 or 10).
    - Adjust `data_augmentation` parameters for data transformations during training.
    - Tune `epochs` (training iterations) and learning rate (`lr`) for potentially better performance.
3. **Run the Script:**
    - Execute the Python script

Output:

The script performs K-Fold cross-validation and prints a message upon completion.

Optional Evaluation:

- Uncomment the code block within the loop to evaluate the model on the validation set for each fold.

Notes:

- This is a basic implementation and can be further customized for specific needs.
- Consider exploring more advanced image augmentation techniques.

I hope this README provides a clear and concise explanation of code!