

Explanation of the Prediction Code Components

This code utilizes a pre-trained model to classify images into categories: fire, no fire, or smoke.

1. **Model Loading**

The script begins by loading the trained model from a file. This model acts like a trained brain, capable of analyzing images and making classifications.

2. **Image Preparation**

Before making predictions, any new image must be processed in the same way as the training images. This includes resizing the image to match the model's specifications and normalizing its color values.

3. **Prediction Generation**

The processed image is then passed through the model, which evaluates it based on the patterns it learned during training and determines whether the image depicts fire, smoke, or no fire.

4. **Result Display**

The output of the prediction, such as "fire," "no fire," or "smoke," is presented, reflecting the model's interpretation of the image.