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**1. Project Setup**:

* **Data Preparation**: Installing necessary libraries and extracting image data.
* **Exploration**: Displaying sample images and verifying image dimensions.

**2. Model Setup and Training**:

* **Model Selection**: Using a pre-trained YOLOv8 model.
* **Configuration**: Adjusting training settings (epochs, batch size).
* **Training Process**: Training the YOLO model on your labeled road conditions dataset.

**3. Evaluation and Results**:

* **Prediction Samples**: Displaying results of the YOLO model on test images, including detections for turns and road conditions.
* **Performance Metrics**: Likely includes accuracy metrics or a confusion matrix if calculated.

To help you create a report and presentation for your object detection project on road conditions in Gilgit, I’ll review the uploaded notebook file. I'll summarize key findings, methodology, and details that should be included in your report and presentation slides.

Let's take a look!

Your notebook appears to include the following main sections, which we can use to outline the report and presentation:

1. **Project Setup**:
   * **Data Preparation**: Installing necessary libraries and extracting image data.
   * **Exploration**: Displaying sample images and verifying image dimensions.
2. **Model Setup and Training**:
   * **Model Selection**: Using a pre-trained YOLOv8 model.
   * **Configuration**: Adjusting training settings (epochs, batch size).
   * **Training Process**: Training the YOLO model on your labeled road conditions dataset.
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**Report Outline**

1. **Introduction**:
   * Brief description of the project, objectives, and significance in real-world applications, especially for road safety.

**2. Methodology**:

* **Data Collection and Labeling**: Describe how images were gathered and labeled for road conditions and turns.
* **Model Choice**: Explain the choice of YOLO and any specific configurations used (YOLOv8 with certain weights).
* **Training**: Detail the training settings, such as epochs and batch size, and any challenges faced.

3. **Results**:

* **Model Performance**: Summarize key metrics and detection accuracy.
* **Sample Predictions**: Show examples with labeled detections for each category (right turn, left turn, straight, landslide).

**4.Conclusion**:

* Highlight the effectiveness of the model and areas for potential improvement or future work (e.g., enhancing dataset diversity, tuning hyperparameters).