Prompted Segmentation for Drywall QA

Goal

Train (or at least fine-tune) a text-conditioned segmentation model so that, given an image and a natural-language prompt, it produces a binary mask for:

- “segment crack” (Dataset 2: Cracks)
- “segment taping area” (Dataset 1: Drywall-Join-Detect)

Datasets

- **Dataset 1 (Taping area):**
  https://universe.roboflow.com/objectdetect-pu6rn/drywall-join-detect
  Map to prompt: “segment taping area”, “segment joint/tape”, “segment drywall seam”...
- **Dataset 2 (Cracks):** https://universe.roboflow.com/fyp-ny1jt/cracks-3ii36
  Map to prompt: “segment crack”, “segment wall crack”..

Prediction masks

- PNG, single-channel, same spatial size as source image, values {0,255}.
- Filenames include image id and prompt, e.g. `123__segment_crack.png`.

Report

- Mention approach, model tried
- Short goal summary, data split counts, metrics, 3–4 visual examples (orig | GT | pred), brief failure notes, runtime & footprint (train time, avg inference time/image, model size).

Grading Rubric (100 pts)

- **Correctness (50):** mIoU & Dice on both prompts.
- **Consistency (30):** Stable across varied scenes.
- **Presentation (20):** Clear README; seeds noted. Clear report + tables + visuals.