

Evaluating Performance of Indian Road Marking Detection Models

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Team: CV PROJECT

WEEK NUMBER: 2

A. Progress Summary

1) Work Completed:

- **Dataset Analysis:** Conducted a thorough examination of the dataset, including structure, types of images, and labels.
- **Segmentation Mask Study:** Analyzed the dataset to understand how road markings are labeled and identified.
- **Dataset Challenges Identified:**
 - Variability in lighting conditions, weather, and road types.
 - Presence of occlusions like vehicles and pedestrians.
 - Inconsistent or faded road markings.
- **Data Documentation:** Recorded key findings about dataset strengths and limitations for future reference.

B. Upcoming Tasks

1) Tasks Planned

- **Identifying Specific Dataset Issues:**
 - Checking for missing or incorrect labels.
 - Evaluating class imbalance in segmentation masks.
- **Preprocessing and Cleaning:**

- Standardizing image resolutions for consistency.
 - Normalizing pixel values for uniform input to the model.
 - Applying data augmentation techniques (e.g., rotation, flipping) to improve model generalization.
- **Model Selection Research:** Exploring segmentation models such as U-Net, DeepLabV3+, and SegFormer for initial evaluation.