



**Course Name: Computer Vision**

**Weekly Report: 1**

**Group Name: Plain**

**Vanilla Ice-cream**

**Submitted to faculty:**

**Mehul Raval**

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## Work Done This Week

This week, we gathered several research papers and articles related to diabetic retinopathy to build a solid base for our study. We used the Indian Diabetic Retinopathy Image Dataset (IDRiD) as our main dataset and explored various methods for detecting diabetic retinopathy.

### What We Did:

- **Base Dataset:**
  - Selected the Indian Diabetic Retinopathy Image Dataset (IDRiD) as our primary data source.  
[Reference: IEEE Dataport](#)
- **Literature and Papers Reviewed:**
  - Reviewed two preprints on arXiv that offer new ideas and methods.  
[Reference: arXiv Paper](#)
  - Read detailed information on diabetic retinopathy from Hopkins Medicine.  
[Reference: Hopkins Medicine](#)
  - Explored two research articles from IEEE Xplore on advanced image processing and classification techniques.  
[Reference: IEEE Xplore Document 1](#)  
[Reference: IEEE Xplore Document 2](#)
  - Studied a paper from Nature on segmentation techniques in diabetic retinopathy detection.  
[Reference: Nature Paper](#)
  - Reviewed additional conference papers and published articles, including:
    - A review on the classification and segmentation of diabetic retinopathy.  
[Reference: Appl. Sci. Paper](#)
    - A study on using vision transformers for lesion classification and diabetic retinopathy grading.  
[Reference: Frontiers in Public Health Paper](#)
    - Research on detecting diabetic retinopathy via exudates and hemorrhages segmentation using new methods.  
[Reference: Nature Paper](#)
    - A paper on deep dictionary learning and predefined filters for classifying retinal OCT images.  
Reference: IEEE Access Paper

This week's work has built a strong foundation for our study. We are excited about the progress we've made and look forward to refining our approach next week.

## **WORK TO BE DONE NEXT WEEK**

1. Complete a full survey of the literature to compare different methods.
2. Propose a simple method to solve our problem based on our findings.