Ahmedabad University

CSE541 Computer Vision

Weekly Project Report

Date: 19-02-2023

Project title: Real-time medical image disease detection using deep learning methods.

Group 8

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1. **Task performed this week**
    - We studied the dataset. We learned about the classes which are there in the dataset.
    - We researched the various gastrointestinal diseases given in the dataset to help us decide the number of classes we want our model to classify the images.
2. **Outcomes of task performed**
    - There are two types of images in the dataset:
        1. Anatomical landmarks
        2. Pathological findings
    - Anatomical landmarks are used to identify lesions in a particular region. The specific area helps in positioning during endoscopic examination. Such landmarks are present in both the upper and lower GI area. There represent normal conditions, so this section is named ‘normal’ images for the experimental work. Upper GI has three subclasses, namely pylorus, retroflex-stomach, and z-line, whereas for lower GI, the subclasses are the cecum, ileum, and retroflex-rectum.
    - Pathological findings represent any abnormal occurrence in the wall mucosa of the GI tract. Any part of the alimentary canal can be affected, giving rise to mild to severe conditions. These abnormal conditions could save other severity if diagnosed at an early or mild stage. As this signifies the abnormal conditions of the GI tract, this class of images is named the ‘abnormal’ class of images for the study. In the upper GI portion, this is further divided into barrettes and esophagitis, whereas in the lower GI the subclasses are hemorrhoids, polyps, and ulcerative colitis.
3. **Tasks to be performed in the upcoming week**
    - We will finalize the number of classes that our model will classify the images.
    - We will decide the approach of our project.