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Notes from Digital Image Processing

1. In lec1 I learnt about different types of computer vision and like

Low level vision:

Where we can play with pixels and change the image how ever we want which changes our

viewing perspective of the image.

Mid level vision:

Where we connect image to world or things like panorama,timelapses etc.

High level vision:

Where we understand about the images like object detection,segementation ,lidar etc.

2. The topic l like the most is about instant segmentation which is used in autonomous vehicles

3. In lec2 it is mostly bio that we learnt in schools etc but liked concept of cones and rods why

rods dont contribute to colour and about visual cortex in brain and ventral and dorsal system

and about the metamers can recreate colurs by selectively stimulating cones etc.

4. Lec3 is most interesting of all them how we adress pixels and how we separate into RGB

Layers and different types of colour spaces like RGB and HSV etc

5. Interpolation and Resizing:
Like how images are like functions and about nearest neighbours and types of interpolation

Triangle interpolation and bi linear interpolation etc

Types of healthcare reports and medical imaging reports

Types of Healthcare Reports

Healthcare reports can be broadly divided into several categories:

1. **Clinical Reports**
   These reports are related to direct patient care. They include patient history,

physical examination notes, progress notes written during hospital stays, operative reports, and discharge summaries. Clinical reports help doctors understand the patient's condition and track treatment over time.

2. **Diagnostic Reports**
   Diagnostic reports support medical decision-making by providing test results. Examples include laboratory reports (such as blood and urine tests), pathology reports (biopsy and tissue analysis), and microbiology reports (culture and sensitivity tests).

3. **Medical Imaging Reports**
   These reports are prepared after medical images are examined by a radiologist. They explain what is seen in the images and help confirm or rule out diseases.

4. **Administrative and Legal Reports**
   These include medical certificates, insurance reports, medicolegal documents, and billing records. They are mainly used for legal, financial, and institutional purposes.

5. **Public Health Reports**
   These reports focus on population-level health information, such as immunization records, screening reports, and disease surveillance data.

Medical imaging reports are written interpretations of images produced by imaging techniques such as X-ray, CT scan, MRI, ultrasound, and nuclear medicine scans. These reports help doctors understand internal body structures without surgery.

Common Types of Medical Imaging Reports

- **X-ray Reports**
  Used to detect bone fractures, chest infections, and dental problems.

- **CT Scan Reports**
  Provide detailed cross-sectional images of organs and are commonly used in trauma cases, brain injuries, and cancer detection.

- **MRI Reports**
  Used for imaging soft tissues such as the brain, spinal cord, joints, and muscles. MRI is especially useful because it does not use radiation.

- **Ultrasound Reports**
  Commonly used during pregnancy, abdominal examinations, and blood flow studies. Ultrasound is safe and allows real-time imaging.

- **Nuclear Medicine Reports**
  Include PET and bone scans, which show how organs function rather than just their structure. These are widely used in cancer diagnosis and follow-up.