

The Science Behind Images

To begin, we'll start with the fundamentals of digital image processing. I'm sharing a few beginner-friendly blogs and videos that will give you a solid understanding of this fascinating domain.

Reading Material

Lumenci – A Beginner's Guide (read up to *Traditional Image Processing Algorithms*)

<https://lumenci.com/blogs/digital-image-processing-a-beginners-guide/>

Basics of Image Processing

<https://www.imageprovision.com/article/the-basics-of-image-processing-a-beginners-guide/>

My Favourite Vision Researcher...

Joseph Redmon is a well-known computer vision researcher, famous for creating the Darknet framework and co-authoring the YOLO series of real-time object detection models. He studied at Middlebury College and later pursued his PhD under Ali Farhadi at the University of Washington. His teaching style is intuitive, engaging, and ideal for building strong fundamentals in vision.

Below are three lectures from his course “**The Ancient Secrets of Computer Vision**” at the University of Washington. These will give you a great feel for the fundamentals, and much of what you learn will connect directly to our upcoming work.

1. **Introduction**

https://www.youtube.com/watch?v=8jXIAWg_yHU

2. **Human Vision, Color Spaces, Transforms**

<https://www.youtube.com/watch?v=-nt80JUNwIw>

3. **Image Coordinates, Resizing**

<https://www.youtube.com/watch?v=hpqrDUuk7HY>

Tasks

1. Write **5 interesting points** you learned from the lectures.
2. Do a brief research on **types of healthcare reports** and write about **medical imaging reports**.

Deadline

14th December, 2025