The Playlists for Sub Topics:

Basics of Python:

- Python: Watch till 3:36:00
- Numpy
- Pandas
- Matplotlib
- Seaborn

Introduction to Machine Learning:

For those who are already familiar with python and its libraries, you can go ahead with this week's content.

- Theory
  - Supervised Learning
  - Advanced Learning Algorithms

  Apply for financial aid for these courses and while applying the courses audit the course for free. Watch all of these videos at 2x (no need to compete the assignments).
  - Supervised Learning and Unsupervised Learning: For those who prefer reading over watching videos, you can skip the unsupervised part for now, as it is not needed for this project. However, you are free to explore it if you have sufficient time.
- Code
  - Machine Learning Algorithms : The datasets and Google Colab files are provided in the description. Try implementing them or exploring them on your own.

Machine Learning Frameworks:

This week, we will explore several machine learning frameworks that have simplified the creation of complex ML models.

- Pytorch
- Tensorflow : A great library. It can be used across a range of tasks but has a particular focus on training and inference of deep neural networks.

Generally, people tend to stick with either PyTorch or TensorFlow. It ultimately depends on your preference. For beginners, it's a good idea to try both to understand their features. Once you're comfortable, choose one and focus on mastering it. Each library

has its strengths and weaknesses, depending on the task. While you can combine them, you'll be better equipped to decide on your preferred library as you gain more experience.

- OpenCV : This file contains a hands-on activity as well.

Deep Diving into computer Vision

This week we will get deeper understanding of computer vision and the associated libraries.

- Introduction to Computer Vision and Image Processing | Coursera
- Introduction to Convolutional Neural Network (CNN)
- Tutorial for hand gesture recognition using Mediapipe

The OG Playlist:

Andrew Ng's Machine Learning Course (Coursera)

Deep Learning Specialization (Coursera)

Relevant IITB Course Material:

https://www.cse.iitb.ac.in/~swaprava/cs217240_2024.html

More tutorials to Follow:

https://youtu.be/QUT1VHiLmmI?si=oKhXztbOCh1bpJkn

https://youtu.be/2uvysYbKdjM?si=Ow8hL74uEfbaJ0dz

https://youtu.be/3Xc3CA655Y4?si=-ur9UCkiG0-plRjW

https://youtu.be/W01tIRP_Rqs?si=4XRRfMxNuqgXVMdU

Best Websites for Tutorials:

W3Schools Online Web Tutorials

GeeksforGeeks | Your All-in-One Learning Portal