GenAI: Phase 2

Reference Youtube Playlist : Youtube

Project Breakdown:

1. GANs Intro (Week 1):

- **Objective:** Learn the basics of the Generator and Discriminator part.
- **Tasks:**
  - Understand what the Generator and Discriminator does.
  - Understanding Binary Cross Entropy loss function and Minimax game with its loss function.
  - Understanding the training process of GANs in tensorflow.
- **Notebooks and Docs**
  - Session 1 on GANs : **Info on GANs**
  - Vanilla Old TensorFlow : Kaggle
  - Vanilla GANs New Tensorflow : Main_GANs.ipynb

2. Building FCGAN and DCGAN (Week 1 - 2):

- **Objective:** Assignment for deeper understanding of GANs with comparing performance of FCGAN and DCGAN.
- **Assignment** : GANs Assignment.ipynb

3. Learning Wasserstein GANs (Week 2):

- **Objective:** Understanding better loss function for GANs
- **Tasks:**
  - Implement wGANs
  - Docs - Additional Type of GANs
  - wGANs : wGANs.ipynb

4. Learning Conditional GANs (Week 3):

- **Objective:** Understanding way to control the output of GANs
- **Tasks:**
  - Implement cGANs.
  - Assignment on GANs.
  - Docs - Additional Type of GANs x
  - cGANs : cGANs.ipynb
  - cGANs : Kaggle

Assessment Criteria:

The project will be assessed based on:

1. **Assignments:** How well the assignments were submitted.
2. **Theoretical Understanding of GANs**

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*by the end of this project, you should be able to understand and create GANs of your own and understand research papers related to GANs