RO-1.0X

Assignment 3
Image Enhancement

Problem Statement:

- **Given files are**

  - "**assignment3.jpg**"

    - RGB Image

- **Tasks**

  - Implement Histogram Equalization algorithm as described in the lecture.
  - Implement Adaptive Histogram Equalization algorithm as described in the lecture.
  - Implement CLAHE algorithm as described in the lecture.

- **To Submit**

  - **For HE [Histogram Equalization]**

    - **"assignment3_he_hist.jpg"**
      - Plots showing Histograms before applying HE and after applying HE.

    - **"assignment3_he_arr.npy"**
      - Array containing values after applying HE.

    - **"assignment3_he.py"**
      - Code Submission.

  - **For AHE [Adaptive Histrogram Equalization]**

    - **"ahe.txt"**
      - Contains a number "**n" representing** number of tiles you have used in your submission.
      - {choose an optimal value of n between 3 to 8}

    - **"assignment3_ahe_hist.jpg"**
      - Plots showing Histograms before applying AHE and after applying AHE.

    - **"assignment3_ahe_arr.npy"**
      - Array containing values after applying AHE & Bilinear Interpolation.

    - **"assignment3_ahe.py"**
      - Code Submission.

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- **For CLAHE [Clip Limited Adaptive Histrogram Equalization]**

  - **"clahe.txt"**
    - Contains a number "**n"** and **"c" representing** number of tiles and clip limit you have used in your submission.
    - {choose an optimal value of n between 3 to 8}

  - **"assignment3_clahe_hist.jpg"**
    - Plots showing Histograms before applying CLAHE and after applying CLAHE.

  - **"assignment3_clahe_arr.npy"**
    - Array containing values after applying CLAHE & Bilinear Interpolation.

  - **"assignment3_clahe.py"**
    - Code Submission.

- To submit the assignment put both the files in a folder named **username**, where **username** is your user name with which you signed up at DeepEigen.

  - Submit **username.zip** file