<u>Assignment</u>

Write an essay (two to four pages) about your understanding to one of the following topics:

1. LSI Systems for image filtering and enhancement.

2. Fourier Transformation of image

3. Histogram and its applications

4. Median filter for Image processing

5. Image Restoration

6. Morphological Image Processing

7. Gradient operators and Edge Detection

8. Hough Transform

9. Local Dominant Orientation Analysis

10. Understand Decision Theory

11. Statistical Estimation

12. Discriminant Functions and Classifiers.

13. Unsupervised Learning and Clustering

14. Eigenvalue and eigenvector analysis of data

15. Data-driven Feature Extraction and Dimension Reduction

16. PCA and LDA for Feature Extraction and Dimension Reduction

17. Neural Networks

18. Convolutional neural networks and Deep Learning

19. Any other topic you are interested in in the areas of image analysis or pattern recognition or machine learning

Make your points of view convincing by analysis, comparisons and necessary examples.

Please submit your assignment by 20 April 2020. Email me the Word file or PDF file at exdjiang@ntu.edu.sg. Please use your name + matriculation number as the file name and put EE7403Assignment in your email subject. Thank you.

Wish you to learn something useful through your in-depth thinking and analyzing in the assignment.