CSE 535 Mobile Computing Project 3 (Fall 2022)

The idea of this project is to use the Android Application created in Assignment 2 to divide the images into parts and send handwritten digit pictures to the client mobiles and use these to classify the digits. The digits should be placed in their respective folders after the classification of the images on the master mobile.
Project 3 will be a team project. Everyone must **submit a video** of the application working along with the **source code**.

Deliverables:

1) **Mobile Application**: The mobile application will be exactly similar to Assignment 2 only you need to divide the image into 4 parts and send each piece to a different client mobile.
2) **Client Mobiles:** This time you will need to train a **basic deep-learning framework from scratch** on parts of the images in MNIST dataset to classify different handwritten digits. Once you have trained the deep learning networks on the dataset you will use the trained model to classify the images. The classified images will then need to be stored in their respective folder on the main mobile. Please download the dataset to train your model.

Submission:

1) Source Code of both Application and the client mobile application.
2) Video of a working demonstration of the application and the client mobiles.
3) A 1-2 page report explaining the technical workings of your application.

All the above things need to be zipped together and uploaded on Canvas.

References:

https://www.geeksforgeeks.org/dividing-images-into-equal-parts-using-opencv-in-python/
https://oleksandrg.medium.com/how-to-divide-the-image-into-4-parts-using-opencv-c0afb5cab10c
https://www.cse.scu.edu/~m1wang/projects/IoT_offLoadingMobileEdgeComputing_17s.pdf

Important Dates for Project 3:

1) Due Date to Submit: 12/4/2022 at 11.59 pm (Arizona Time)

Notes:
We will be taking a **Zero Tolerance Policy toward Plagiarism.** So, please submit only your **original work**. Violations of the University's Academic Integrity policy will not be ignored. Penalties include reduced or no credit for submitted work, a failing grade in the class, a note on your official transcript that shows you were punished for cheating, suspension, expulsion, and revocation of already awarded degrees. The university's academic integrity policy can be found at https://provost.asu.edu/academic-integrity.

Thank You