Code Assignment

**(U5A2)**

**ANN Deployment**

**MNIST Dataset**

**15 marks**

Use the MNIST handwritten digit classification dataset.

**WRITE YOUR ANSWERS BRIEFLY, and ONLY IN THE RELEVANT SPACE GIVEN FOR THE ANSWER.**

1. You have already trained a model in your previous ANN MNIST exercise given in the class. Save and download that model.  
   Create your google colab notebook and load the already trained model.  
     
   The goal of this assignment is to load the trained MNIST ANN model and make it predict the a custom input (a digit written by you on a paper)
2. **[1 Marks]** Write two digits (the last two digits of your roll number) separately on two pieces of paper and put the photos below.
3. **[5 Marks]** Do preprocessing of the image so that it matches with the input type on which the ML model was trained on. Put down the images of the 2 digits after preprocessing it.
4. **[5 Marks]** Use the pre-trained model to predict the digits and print the predictions along with the actual (preprocessed) image. Put down the screenshot of the output.
5. **[4 Marks] Upload the .py code along with this document.**

**Submit the above in the Teams portal.**

**Grading scheme (Total 15 Marks)**

**Time - 4 hours max.**

**Submission on Teams by 11.30 PM, 18 May 2023.**

**Working Professional submission : 11.30 PM, 21 May 2023.**Late submissions are allowed, although it will result in a reduction of 20% marks.

**Plagiarism Policy**

You are **NOT** allowed to discuss. You cannot copy paste text/image from the internet or other sources. All assignments are put through TurnitIn, and any similarity score of more than 40% will be flagged as plagiarism. The penalties are as follows.

* 1st instance of plagiarism - **0 marks for this assignment**
* 2nd instance of plagiarism - **GRADE DOWN for the entire course**
* 3rd instance of plagiarism - **FAIL in the course**

*For group submissions, the above policy will be enforced on all the team members equally.*

By submitting this assignment, you/your group agree to the above policies on grading, submission and plagiarism, and the person submitting on behalf of the group is assumed to have taken consent from their group members.