Model Runtime Requirements

The proposed algorithm programs were executed on hipergator after their respective input files were presented.

To instantiate the project scripts, a copy of the Raw dataset (task1_classic_classification.zip & task1_videos_mp4.zip) should be downloaded and presented as input to the initial stage of the model. Kindly download copy of the dataset by clicking on this link here.

According to the project presentation, the proposed model framework begins with a script tile titled 'Data pre-processing' that delegates and decomposes videos based on the task. In addition, the script will perform generic image pre-processing on the extracted images prior to model analysis. The script concludes by generating essential CSV files for each task, containing a catalogue of image frames and their corresponding key points and behaviour annotations.

Upon successful implementation of the preceding script, the model scripts titled 'Train_Anaotmical_Key_Points_Estimation' and 'Train_Social_Behavioral _Analysis' can be executed in their respective environments to generate essential model files.

The proposed model framework concludes by validating the presented model files against the validation database using the 'NAI_Model_Validation' script.

On a final note, the model scripts titled 'Train_Anaotmical_Key_Points_Estimation', 'Train_Social _Behavioral _Analysis', and 'NAI_Model_Validation' were executed using the kernel titled Pytorch 1.7.1, while the script titled 'NAI_Data_Preprocessing' was executed using the kernel titled UFRC Python 3.10.