Department of Computer Science and Engineering

VIII Semester Project

MONTHLY PROGRESS REPORT - I

BATCH NO: B33

Title of the Project: Simulation of Musical Instruments using Neural Networks

Team Members:

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Name of the Guide: Mrs. Sheela S Kathavate

Duration : From February week-2 to March week-1

Details of the Work carried out:

1. Setup camera module for capturing images at particular frames per second.
2. Data collection from camera module for training model.
3. Transfer learning of Inception model for our generated data set.
4. Mapping of music note for the corresponding key press.
5. Computation of latency and performance on Inception model for calculating time between keypress and music play.
6. Created a general interface for presentation and analysis purpose.

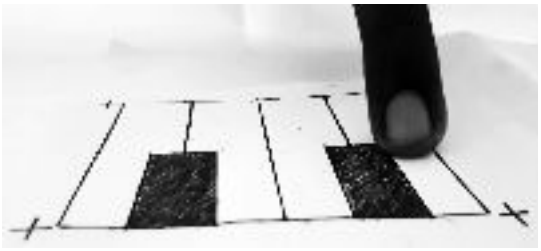

Figure 1 - Data Sample

Timeline details:

- Completed
  - [Feb week-2] Generated data set for six-key musical keyboard.
  - [Feb week-3] Collected noise-free data from the generated data set.
  - [Feb week-4] Applied transfer learning to the Inception Model for the data set.
  - [Mar week-1] Mapping the musical notes to the predicted output class.

- Future
  - [Mar week-3] Build our custom architecture based on Convolutional Neural Network.
  - [Mar week-4] Train and testing our model for the image data set.
  - [Apr week-1] Tuning hyper-parameters to optimize our model and try to reduce model's latency.
  - [Apr week-3] Compare performance and try alternatives for the network architecture.
  - [Apr week-4] Remodel our network from static images to dynamic video.
  - [May week-1] Train our final model on the video data set.
  - [May week-2] Build a GUI front end for the system.

Signature of Guide

Signature of Coordinator

Signature of HOD