



HW1: Hand-on Deep Learning(5%)



Goal of this homework

- Experience the whole process of deep learning project
 - Problem Definition
 - Data Collection
 - Data Cleaning/Feature Engineering
 - Algorithm Selection/Model Evaluation
 - (Model Deployment)
- Be better at Python
 - Numpy/Pandas for Data Analysis
 - Librosa for audio processing
 - Pytorch/Tensorflow for Machine Learning Framework
 - Others



Problem Definition - Music Memorability Prediction

- predict memorability of audio
- twisted/audio version of [paper from IEEE transaction](#)
- collect data through a audio memorability game (using online website)
- predict music memorability as a task of regression
 - in another word, predict the precentage that one music piece be memorized

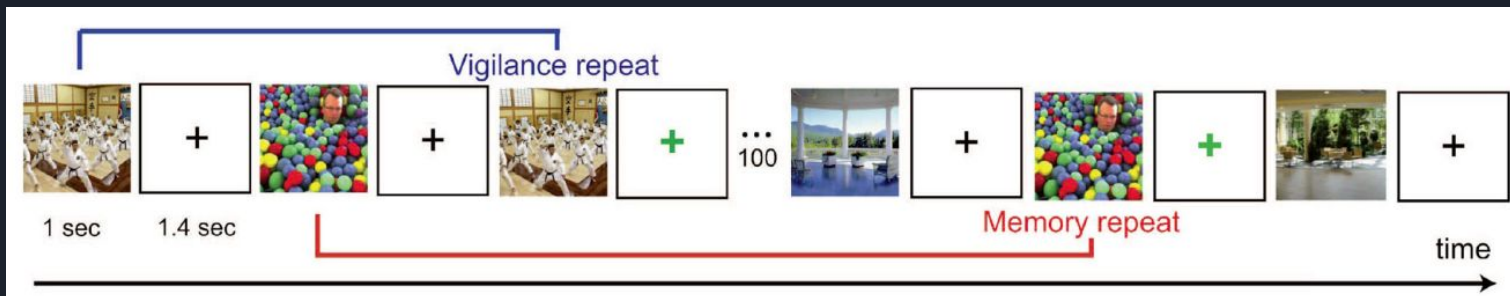



Schedule

- Data Collection/Labeling(30%), **Deadline: 2/27**
 - provide valid data yourself
 - quality of data will impact your results
- Feature Engineering/Algorithm Selection (70%), **Deadline: 3/17**
 - extract useful features
 - select appropriate model/algorithm
 - model evaluation on kaggle

Data Labeling (2/27 Deadline, total 30%)

- see if memorability constructed through music listening
- collect data using online interactive website (10% if you finish the experiment)
- to make sure you provide data with good quality, you **vigilance accuray** (short-term repetition) need to pass threshold. Note that **focusing is the key to surpassing threshold**.
- after passing threshold, upload your token generated from the webiste to E3 (20% for passing vigilance threshold)





Kaggle Competition (3/17 Deadline, 70%)

- evaluate your model
- passing baseline (50%)
- competition ranking (20%)
 - rank 50%-75%: get 10%
 - rank 20%-50%: get 15%
 - rank top 20%: get all 20%



- you are welcome to contact the TA if you have any questions
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