

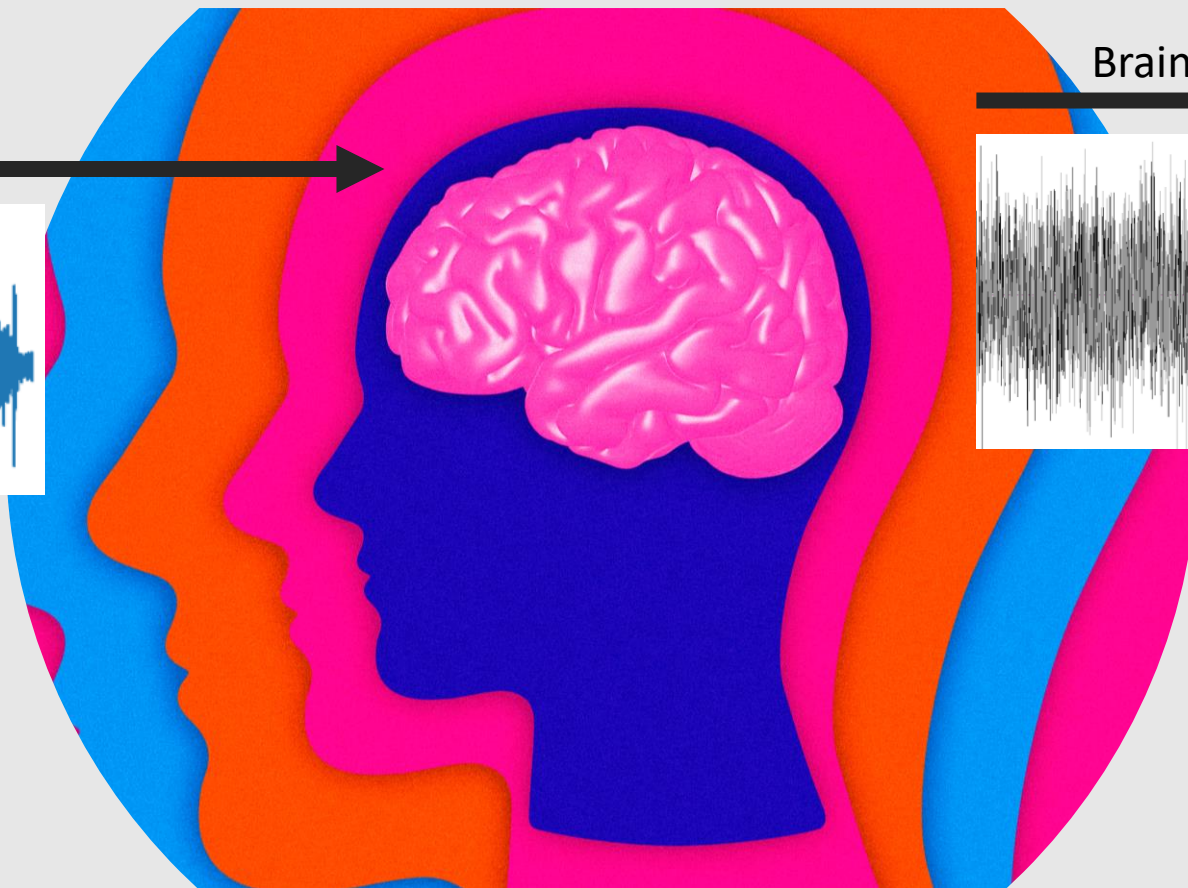
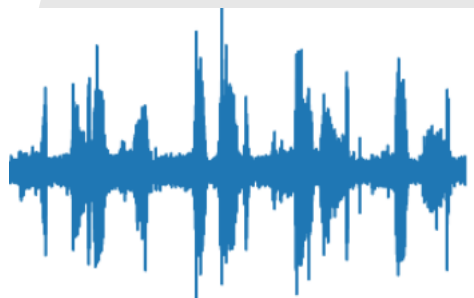


EEG2Music-Spec: Reconstructing Music Stimuli From Acoustic Brain Responses

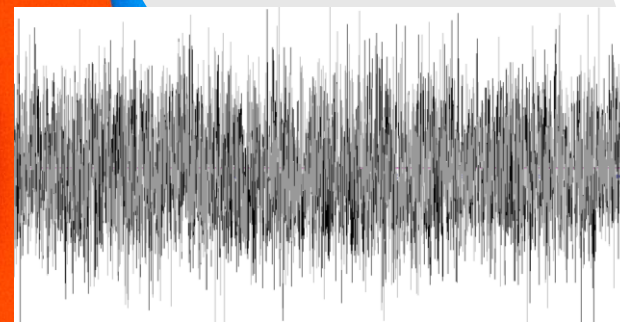
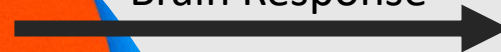
Adolfo G. Ramirez-Aristizabal

University of California Merced

Music Stimuli



Brain Response



Naturalistic Music Electroencephalogram Dataset - Hindi

- 4 pop songs in Hindi
- 12 Participants
- 2 Listening sessions
- 4 minute recordings

Citation

Kaneshiro, B., Nguyen, D. T., Dmochowski, J. P., Norcia, A. M., & Berger, J. (2016). Naturalistic music EEG dataset—hindi (nmed-h). In *Stanford Digital Repository*. Stanford Digital Repository.

Link

<https://exhibits.stanford.edu/data/catalog/sd922db3535>

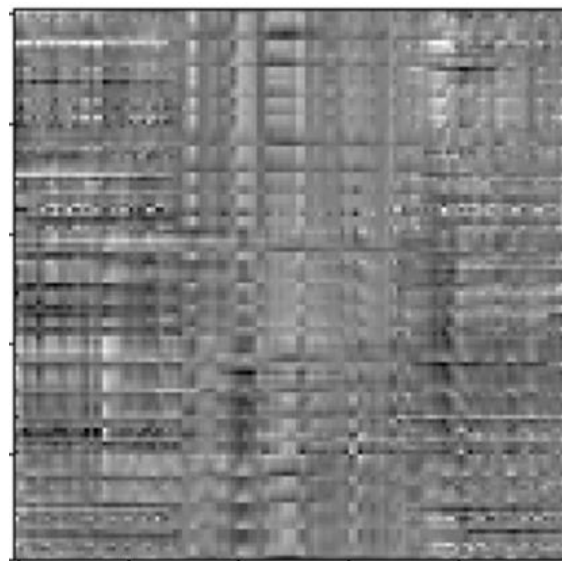
Model

Deep CNN Regressor

- x5 2D Convolutional Layers
- x1 Max Pooling Layer
- x2 Dense Layers
- Output Layer Size of Spectral Target

Parameters: ~ 9,800,000

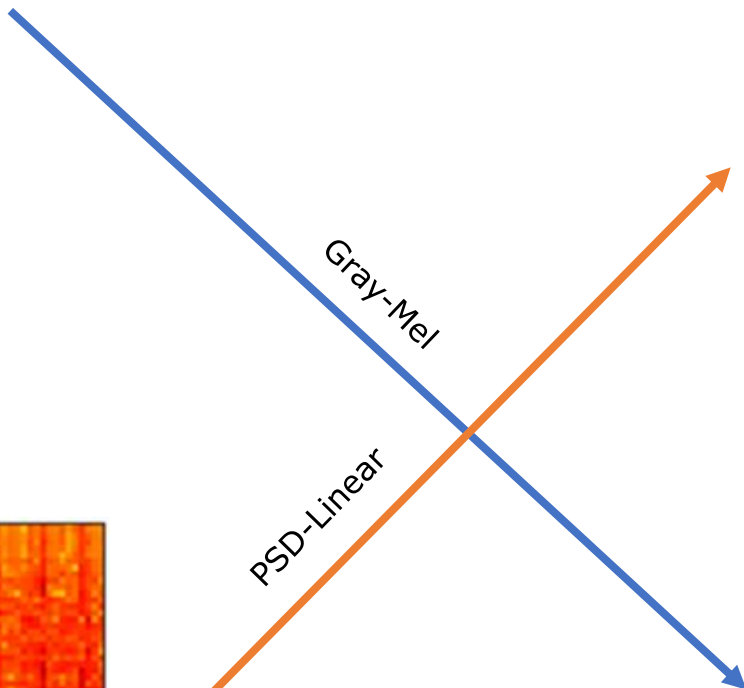
Raw



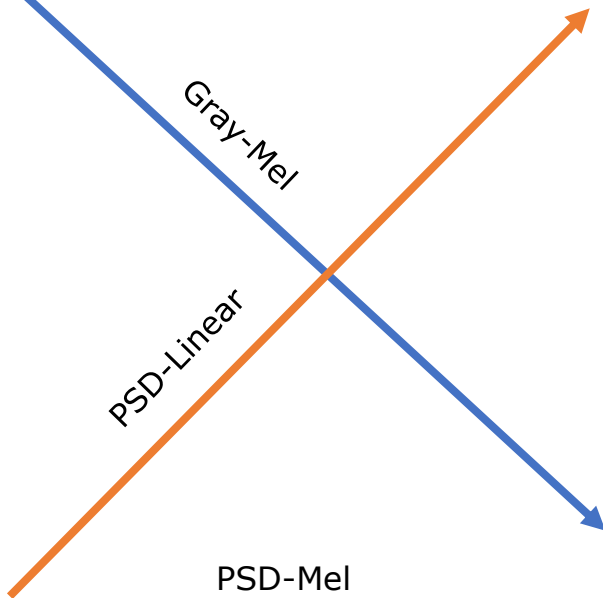
Gray-Linear



Gray-Mel



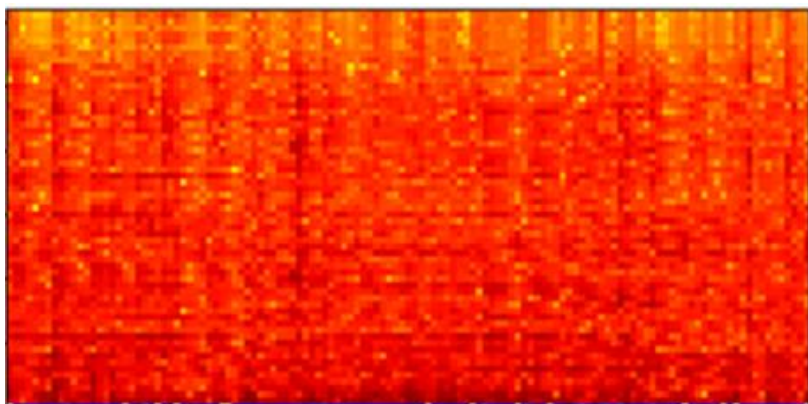
PSD-Linear



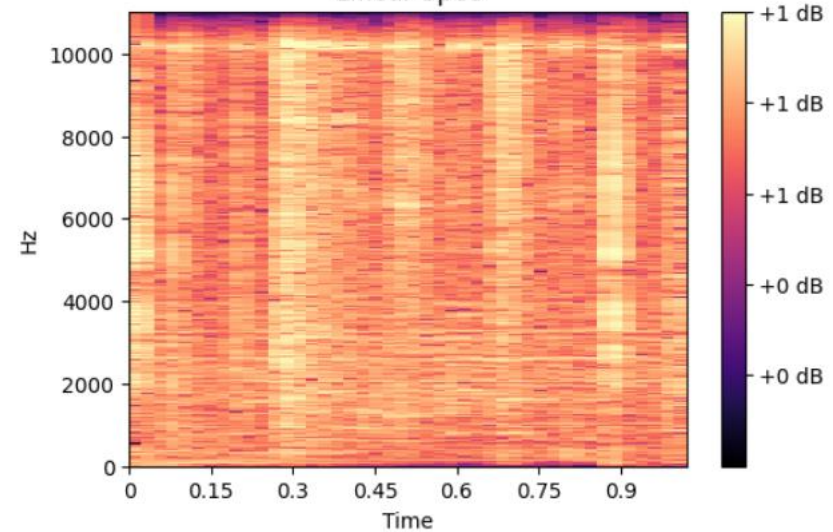
PSD-Mel



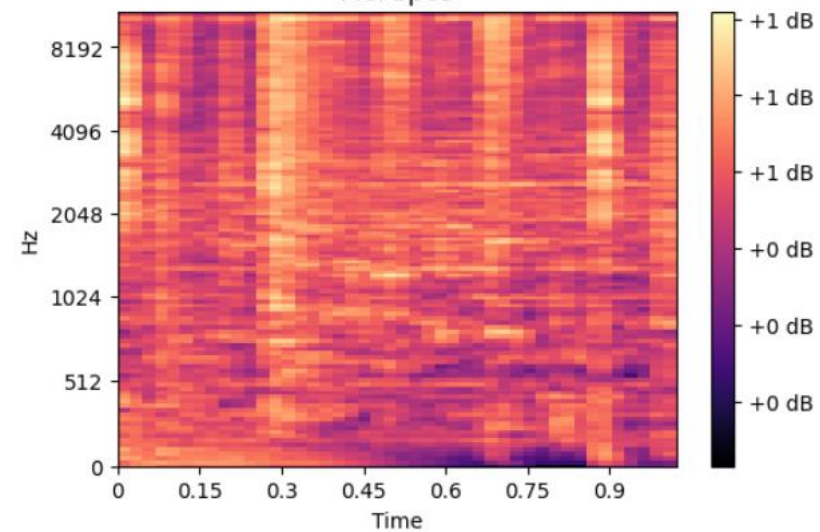
PSD

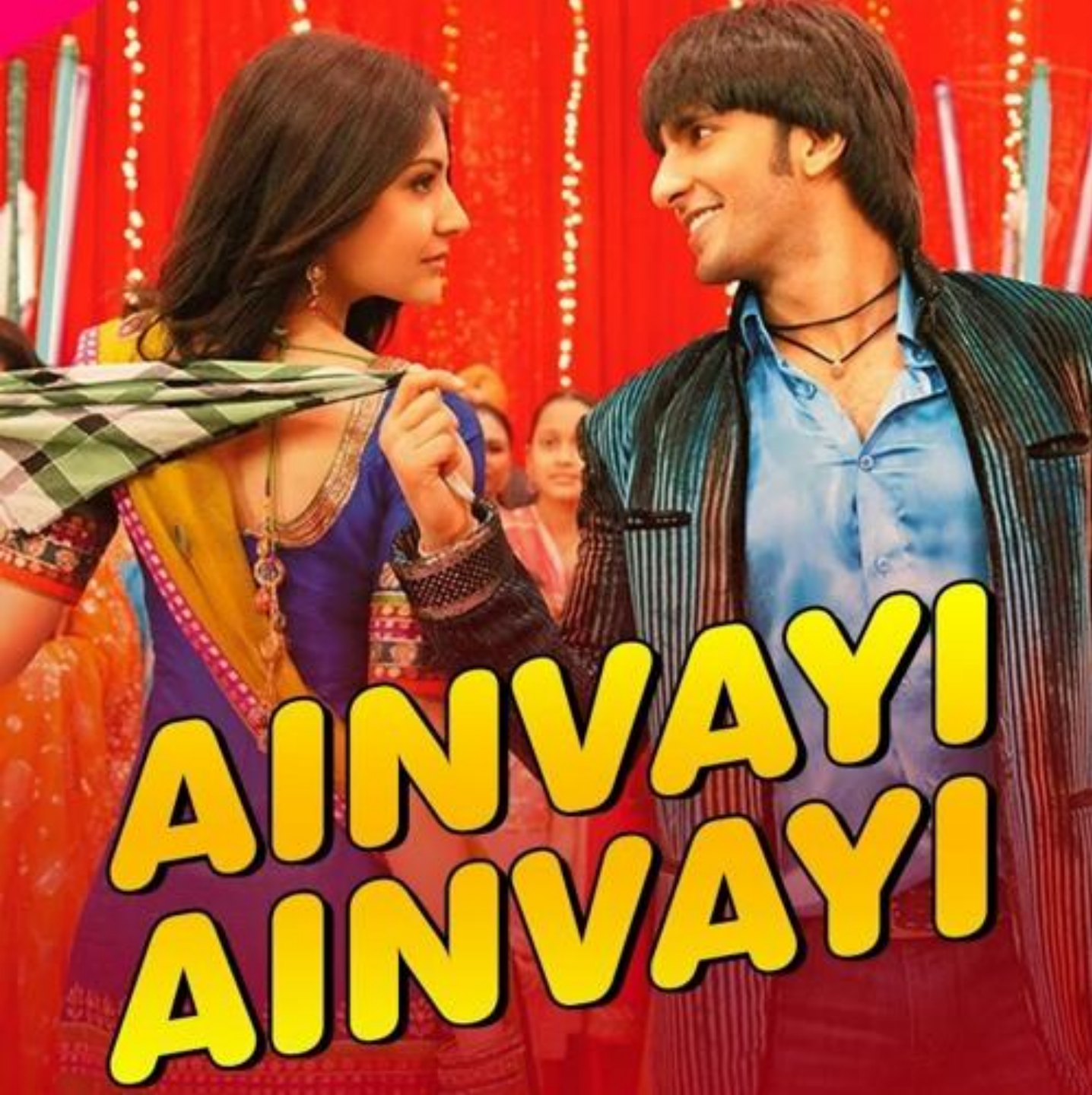


Linear Spec



Mel Spec

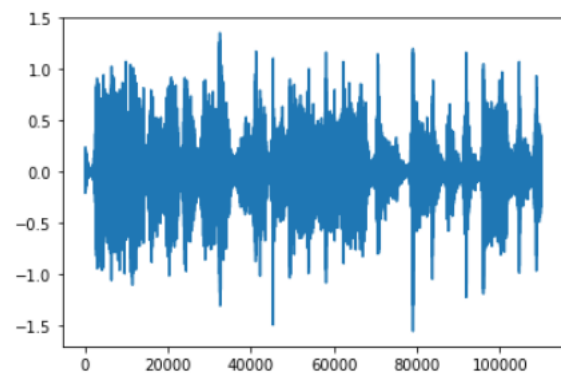
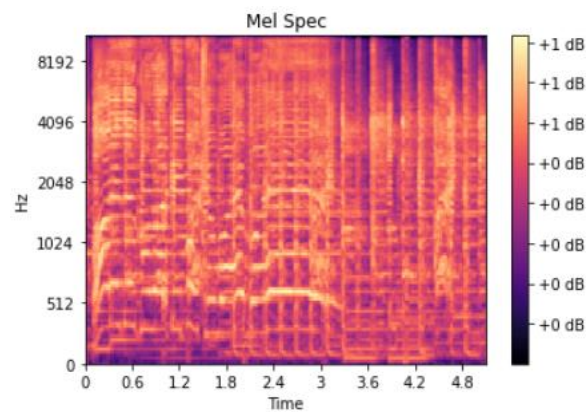




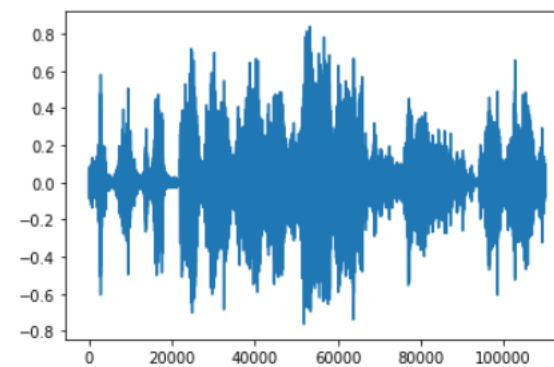
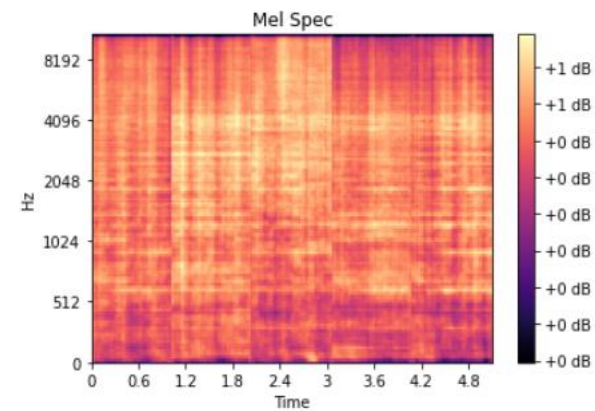
SONG #1

Ainvayi Ainvayi - Salim Merchant & Sunidhi Chauhan

Stimuli



Model Reconstruction From Brain Response



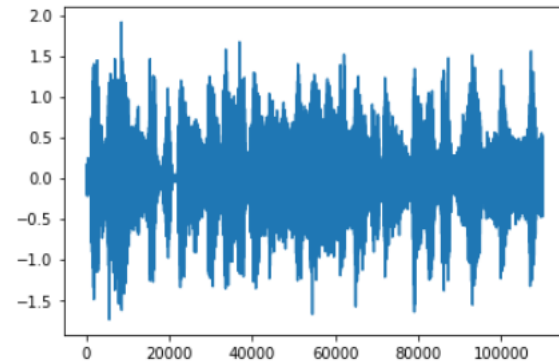
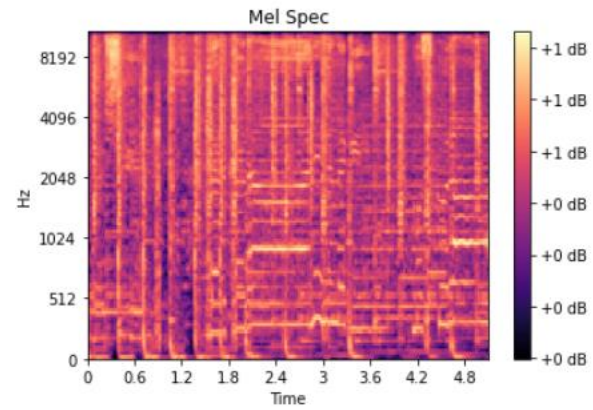
Illuminati Films presents in association with Eros International



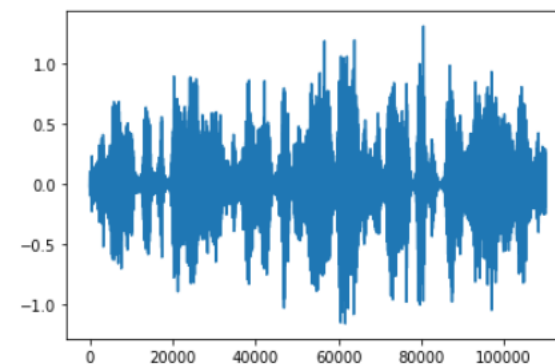
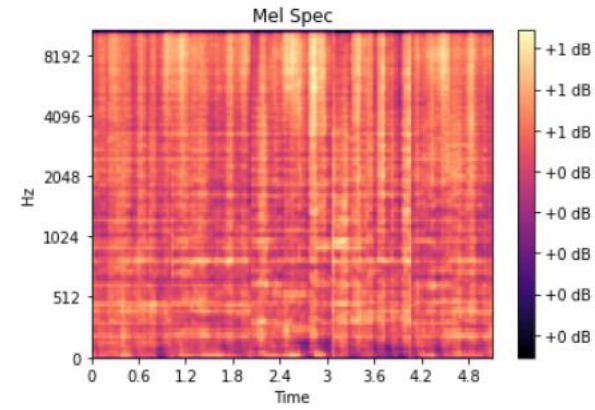
SONG #2

Daaru Desi - Benny Dayal & Shalmali Kholgade

Stimuli



Model Reconstruction From Brain Response

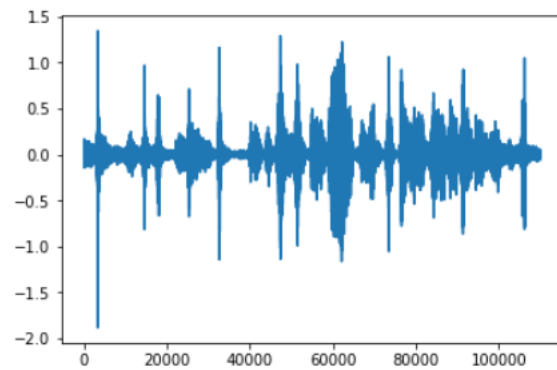
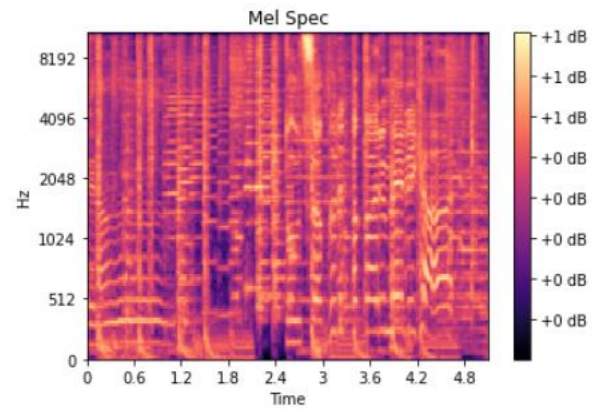




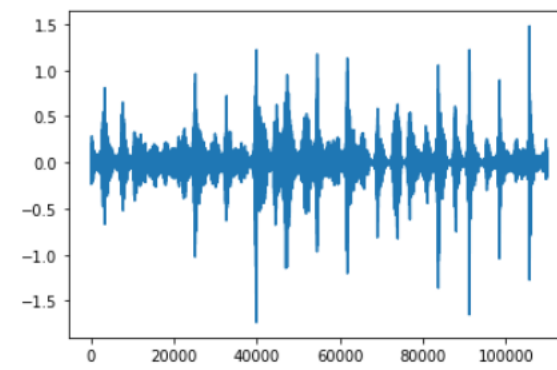
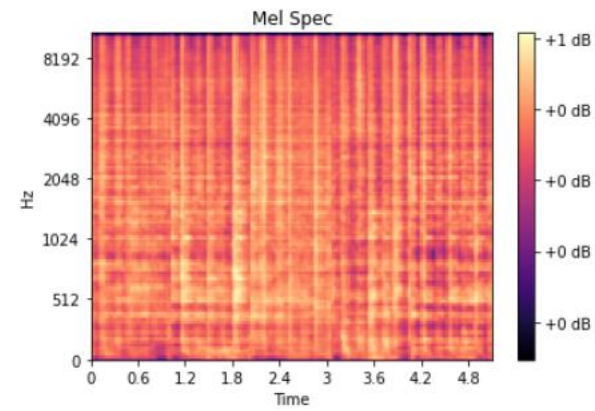
SONG #3

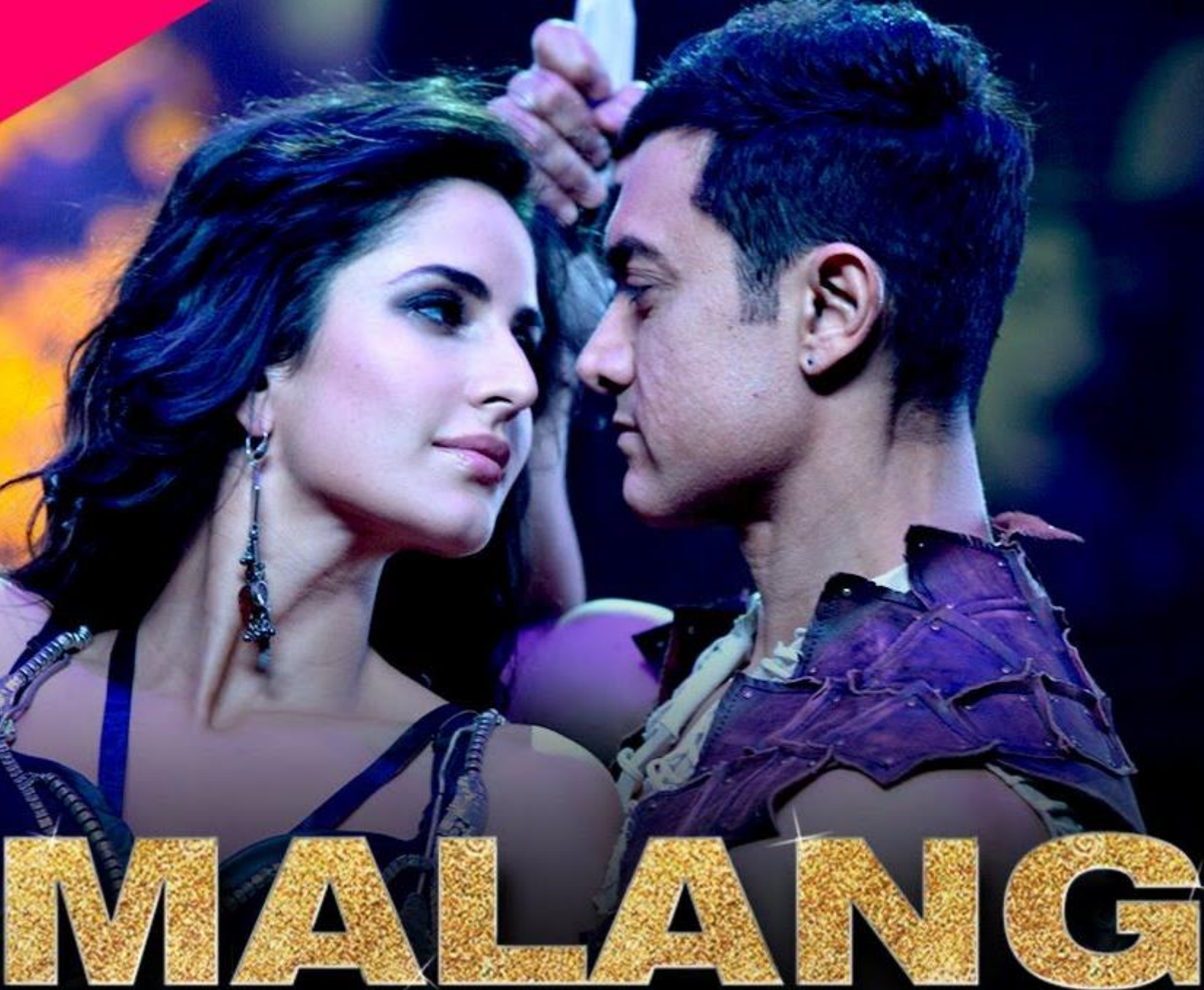
Haule Haule -Sukhwinder Singh

Stimuli



Model Reconstruction From Brain Response

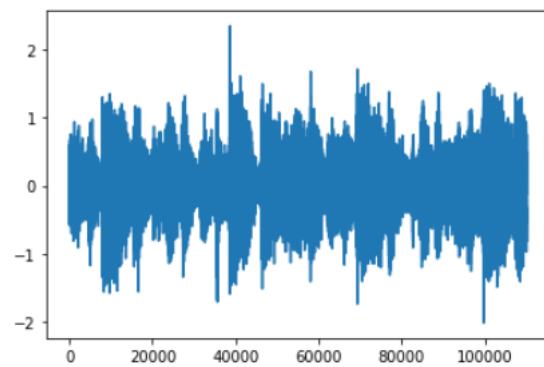
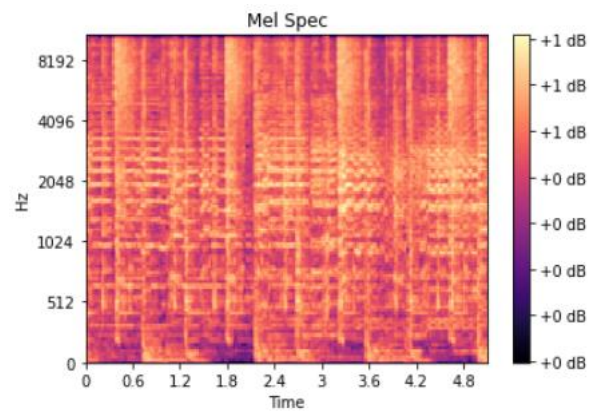




SONG #4

Malang -Siddharth Mahadevan & Shilpa Rao

Stimuli



Model Reconstruction From Brain Response

