

RemBRAINdt

Edmonton, Alberta

NeurAlbertaTech, NeurotechX Edmonton Chapter





Team

Eden Redman

David Lam

Jiyeon Seo

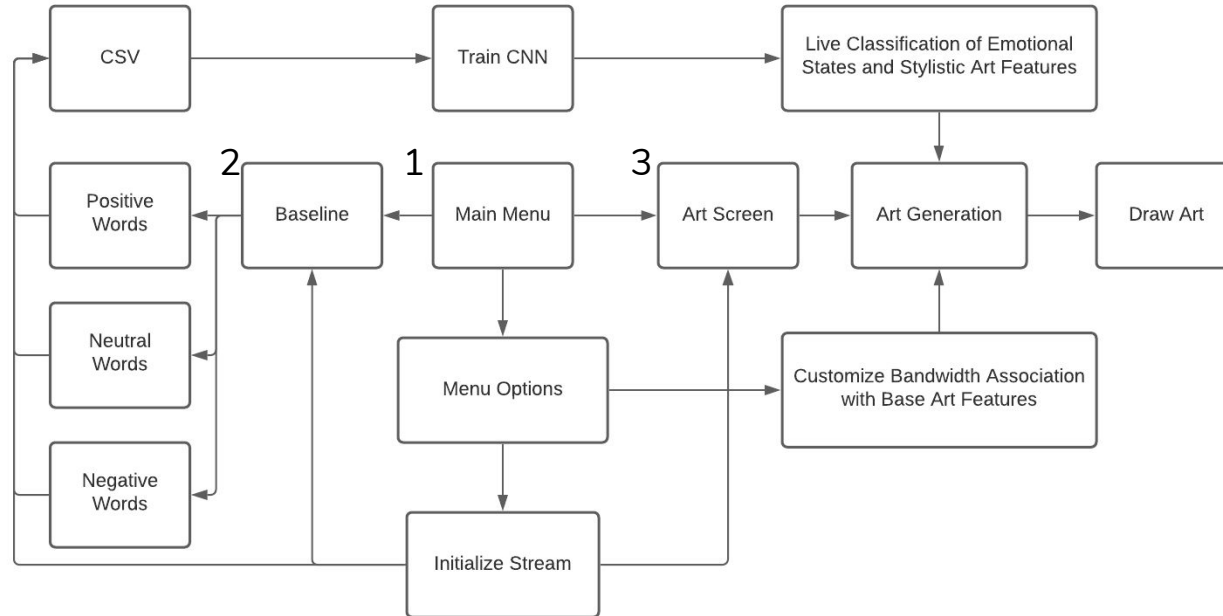
Matthew Danyluik

Shane Eaton





Program Layout

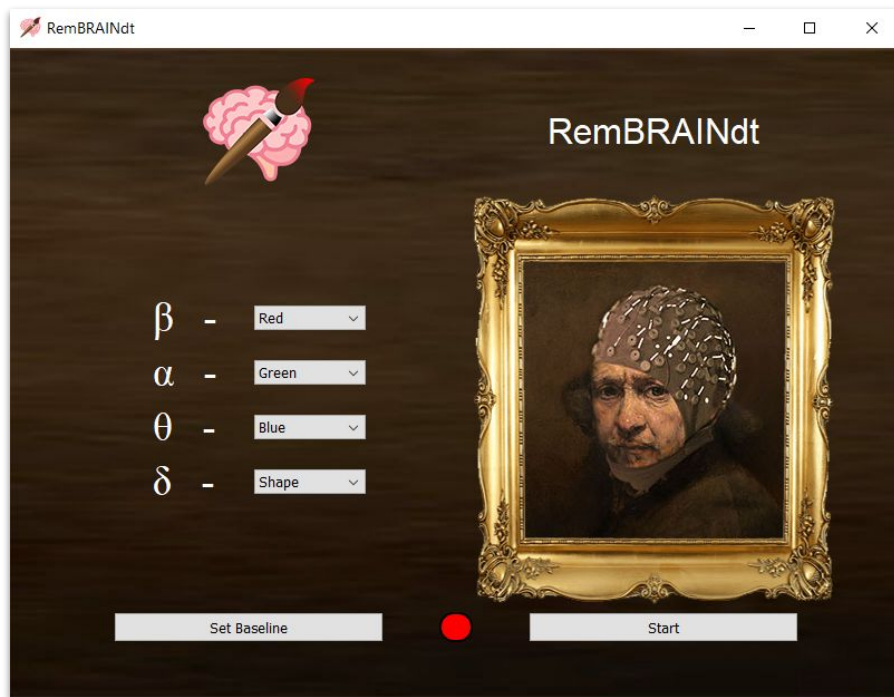




Main Menu (1)

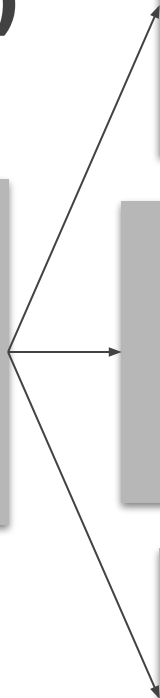
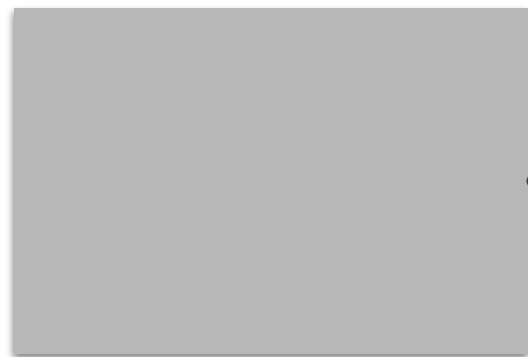
Allows users to do the following:

- Associate bandwidths with base art features (conditional dropdowns)
- Initialize a data stream from a 16-channel OpenBCI (Cyton-Daisey) or simulate a comparable LSL data stream
- Run through the baseline + train a CNN for stylistic art features
- Start the ArtScreen





Baseline (2)



Hostile

Pole

Flower

Mimics a classic academic Cognitive Neuroscience task in which triggers are embedded with the onset of stimulus and then use post-hoc averaging across assigned stimulus categories.

The baseline end-event then initializes the creation of a Convolutional Neural Network (CNN), which in turn is used to enact stylistic changes in the ArtScreen



Art Screen (3)

Dynamic generation of art according to user specification of bandwidth to base art features:

- Red
- Green
- Blue
- Shape

Updates every second according to incoming brain data and updates 10 times in between seconds in some random small variance about the set values brain/user derived values, in order to maintain user attention.

Live streaming data analysis utilizes a moving baseline + buffer to detect relative changes in brain activity across bandwidths

