

## Main script run chronology for full analysis output

### 1. VAD\_analysis

#### a. Run.m

- i. INPUT: Folder containing audio files of patient speech task, spreadsheet *mcginnisdissertation8.2.16.UPDATED.VALUES.xlsx*
- ii. OUTPUT: Folder of patient mat files with following variables:
  - filename
  - audioName
  - indSpeechStart
  - indSpeechStop
  - audioWExt
  - patientDx

### 2. GUI\_data\_processing

#### a. GUI\_speech\_epoch\_play\_and\_label.mlapp

- i. INPUT: Folder containing patient mat files with respective speech task audio files
- ii. OUTPUT (appended to patient mat file):
  - EpochLabel
  - mediationDescription (if mediating)

### 3. post\_VAD\_analysis

#### a. feature\_analysis

- i. speechAnalysis\_label\_filtered.m
  - INPUT: Folder containing patient mat files with respective speech task audio files
  - OUTPUT (appended to patient mat file):
    - analysisTablePauseDetailsPatient
    - analysisTableSpeechDetailsPatient
    - analysisTableSummaryPatient
    - energyMatrixPatientOnly

### 4. post\_VAD\_analysis

#### a. data\_processing

- i. tri\_partition\_data.m
  - INPUT: Folder containing patient mat files
  - OUTPUT (appended to patient mat file):
    - analysisTableSummaryPartition1
    - analysisTableSummaryPartition2
    - analysisTableSummaryPartition3
    - analysisTableSpeechDetailsPartition1
    - analysisTableSpeechDetailsPartition2
    - analysisTableSpeechDetailsPartition3
    - analysisTablePauseDetailsPartition1
    - analysisTablePauseDetailsPartition2
    - analysisTablePauseDetailsPartition3
    - energyMatrixP1

- energyMatrixP2
- energyMatrixP3

## 5. post\_VAD\_analysis

### a. statistical\_analysis

#### i. correlation\_script\_tri\_partition.m

- INPUT: Folder containing patient mat files, spreadsheet *mcginnisdissertation8.2.16.UPDATED.VALUES.xlsx*
- OUTPUT: Tables `Tpartition` representing all spearman correlations with all partitioned features

## 6. post\_VAD\_analysis

### a. data\_processing

#### i. print\_tri\_partition\_features\_with\_CBCL.m

- INPUT: Folder containing patient mat files
- OUPUT: Tables `T` representing all features for each partition with respective patient CBCL values

## 7. post\_VAD\_analysis

### a. machine\_model

#### i. ROC\_model\_train\_increasing\_selected\_features.m

- INPUT: Three excel spreadsheets with printed CBCL and features for every patient with respective tri paritions (output from 6.)
- OUPUT: Figure with 15 subplots representing ROC curves for each partition with increasing selected features. Respective model values for each curve (AUCpre, ACC, SPEC, SENS)

## 8. Post\_VAD\_analysis

### a. machine\_model

#### i. main.m

- INPUT: Single excel spreadsheet with printed CBCL and features for one of the three tri partitions (whichever proved the best output from 7.)
- OUPUT: All values pertaining to modeling analysis and significance, including correlations with respective patient CBCL values