

README

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Citation for this work

Madhavan R, Bansal AK, Madsen JR, Golby AJ, Tierney TS, Eskandar EN, Anderson WS, Kreiman G. Neural Inetractions Underlying Visuomotor Associations in the Human Brain. Cerebral Cortex, In Press.

Code

Run Figure2_example to plot an example like the one in Figure 2.

FileInfo.mat [4K]

```
load FileInfo.mat
```

BehaviorFileList	12x1	4296	cell
Blocks	12x1	3504	cell
RawDataFile	12x1	4282	cell
samplingrate	1x12	96	double
subjects	12x1	1398	cell

BehaviorFileList

List of files containing behavioral data, cell file of length 12.

There can be more than one entry per subject, when multiple sessions where ran for a given subject.

E.g. BehaviorFileList{5}=p5-2011_10_27-18_16_48.mat
which can be found under p5 folder

Blocks

Block numbers for each subject

RawDataFile

List of files containing neurophysiological data, cell file of length 12.

There can be more than one entry per subject, when multiple sessions where ran for a given subject

E.g. RawDataFile{5}=myst_vr_p5.mat
which can be found under p5 folder

samplingrate

Sampling rate in Hz for a given subject

Subjects

Subject folder names

Electrode parcelation files

e.g.

```
load p5/parcelation_p5.mat
```

Anatomical parcel information based on Freesurfer automatic parcelation for each subject

channels	96x1	768	double
hemisphere	1x96	768	double
orig_channels	1x96	768	double
region_codes	96x1	768	double
regions	96x1	14114	cell
talairach	96x3	2304	double
volumeind	96x3	2304	double

[channels](#)

Channel number

[hemisphere](#)

1 for right hemisphere, 2 for left hemisphere

[region_codes](#)

Parcel region number code based on the atlas of Destrieux C, Fischl B, Dale A, Halgren E. 2010. Automatic parcelation of human cortical gyri and sulci using standard anatomical nomenclature. Neuroimage. 53:1–15.

[regions](#)

Abbreviation for each region

[volume_ind](#)

3D volume information in subjects native space for electrode location

Neurophysiological Data

e.g.

```
load p5/myst_vr_p5.mat
```

correct_response	2x104	1664	double
image_category	1x104	832	double
ra_data	104x4001x108	359513856	double
subject_response	1x104	832	double
va_data	104x5001x108	449369856	double

[image_category](#)

Image presented in each trial

[subject_response](#)

Subject responses

[correct_response](#)

Correct responses

[ra_data](#)

Data aligned to motor responses

104x4001x108

104 = number of trials
4001 = number of samples (see sampling rate to convert to seconds)
108 = number of recorded channels (note that only the channels under Electrode Locations are relevant)

[va_data](#)

Data aligned to visual onset

104x5001x108

104 = number of trials

5001 = number of samples (see sampling rate to convert to seconds)

108 = number of recorded channels (note that only the channels under Electrode Locations are relevant)

Behavioral data

e.g.

```
load p5/p5-2011_10_27-18_16_48.mat
```

```
block_struct      1x40          48576  struct
exp_params        1x1          10756  struct
image_list        1x126        17442  cell
```

[exp_params](#)

Set of experimental parameters. These are only useful to re-run the stimulus presentation paradigm

[image_list](#)

Name of each image. The image presented in each trial is coded in [image_category](#), under Neurophysiology data.

[block_struct](#)

Information about each block. Note that not all 40 blocks are ran. In this case, only the first 7 blocks were ran, as evidenced by the fact that most fields in `block_struct(8)` are empty.

e.g.

```
block_struct(1)
```

```
n_images_in_block: 8
```

```
Number of trials in current block
```

```
presentations: [1 2 2 2 1 1 2 1]
```

```
Group for each trial
```

```
score: 8
```

```
Score
```

```
m2sobj: 0
```

```
start_time: '18:18:02'
```

```
Block start time
```

```
reaction_times: [4.8972 2.5445 2.6455 2.1394 2.1355 2.2287 2.0533 1.9890]
```

```
Behavioral response times (seconds)
```

```
responses: [5 6 6 6 5 5 6 5]
```

```
Behavioral responses
```

```
correct: [1 1 1 1 1 1 1 1]
```

1 for correct, 0 for incorrect

pres_time: [784.5234 791.9641 797.0389 802.2171 806.8930 811.5519 816.3112
820.9034]

Stimulus onset time (secs)

off_pres_time: [784.5355 791.9833 797.0600 802.2366 806.9123 811.5716 816.3307
820.9229]

Stimulus offset time (secs)

off_delay_time: [786.1050 793.5180 798.5962 803.7728 808.4486 813.1078 817.8670
822.4592]

Delay time (secs)

cue_draw_time: [785.0538 792.4849 797.5616 802.7384 807.4139 812.0733 816.8324
821.4248]

Cue onset time (secs)

cue_erase_time: [785.0696 792.5010 797.5777 802.7541 807.4301 812.0891 816.8481
821.4405]

Cue offset time (secs)

end_delay_time: [786.0698 793.5012 798.5779 803.7543 808.4303 813.0893 817.8483
822.4406]

End delay time (secs)

begin_feedback_time: [789.9459 795.0210 800.1992 804.8751 809.5349 814.2933
818.8857 823.4110]

Feedback onset time (secs)

end_feedback_time: [790.4638 795.5386 800.7168 805.3928 810.0516 814.8110
819.4032 823.9288]

Feedback offset time (secs)

trigger2_off_time: [786.1213 793.5345 798.6126 803.7892 808.4649 813.1242
817.8833 822.4755]

m2sobj_location: [-1 -1 -1 -1 -1 -1 -1 -1]

companion_image: [0 0 0 0 0 0 0 0]

end_time: '18:18:45'

Block end time