HOW TO RUN CANLAB 2ND LEVEL ANALYSIS TEMPLATE SCRIPTS

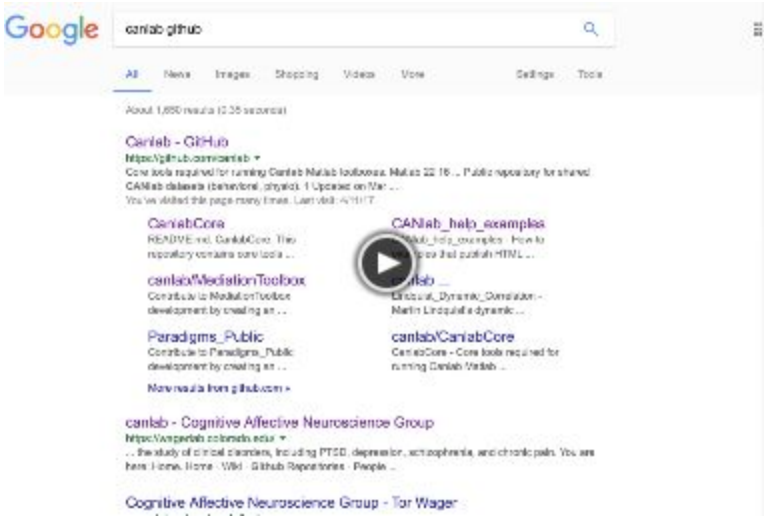
walkthrough by marianne, 2017
code & videos by tor, 2017

https://docs.google.com/document/d/1bGpiXUyxxzu6aG0zAU4x8ELNy3bdUMogW_TiuoDaH0s/edit?ts=591b73b7#

1. INSTALL THE CANlab_help_examples FOLDER FROM GITHUB

Found here https://github.com/canlab

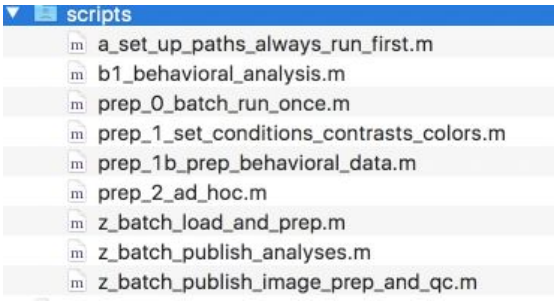
This video provides further instruction.



2. SET UP YOUR DATA ANALYSIS FOLDER

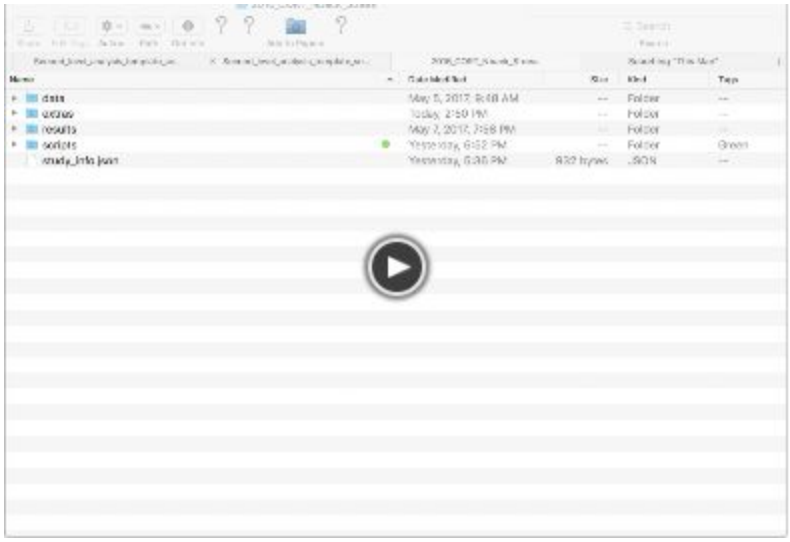
In your **Analysis** folder set up these subfolders:

- data
- extras
- results
- scripts
    - Here copy in a series of scripts from CANLab_help_examples



Copy over to your **Analysis** folder ‘study_info.json’

This video provides further instruction.

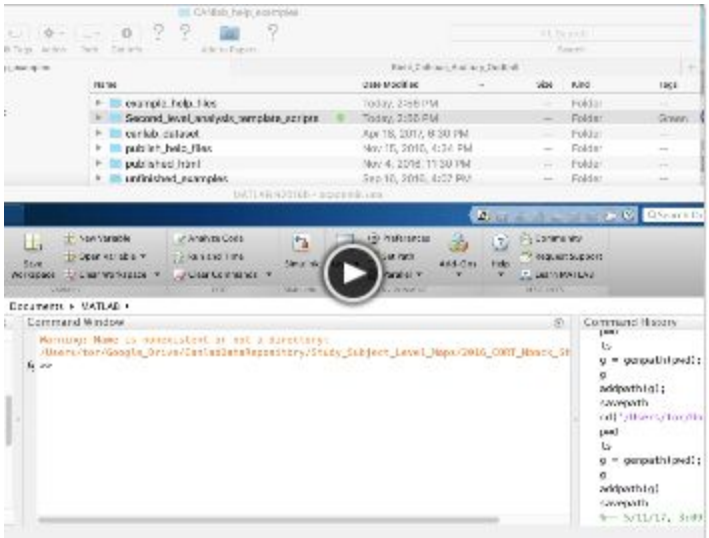


3. ADD ALL THE FOLDERS TO PATH

In MATLAB

- genpath(addpath(‘/CANLab_help_examples/’))
- genpath(addpath(‘/YOUR_ANALYSIS_FOLDER/’))

This video provides further instruction.

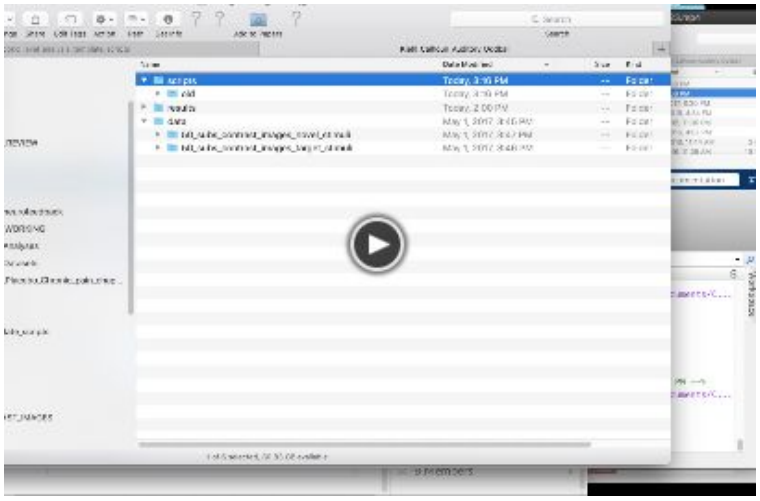


4. MODIFY THE TEMPLATE SCRIPTS

1. In a text editor, edit the **study_info.json** file to fit your data
   For example:

```
{
"Primary_publication":
"Fill in this JSON-format file and call it study_info.json, in your main
study folder. This field would contain the primary publication associated
with the study, if any, or null if none.",

"Associated_publications":
"Other publications here. e.g.,
Reddan MC, Wager TD, Schiller D. Imagined Extinction Reduces Learned Threat in Brain and Body. (submitted)",

"Notes":
"This dataset was shared by Daniela Schiller for Marianne Reddan to analyze the effects of imagined extinction",

"Publication_URLs": null,

"Publication_DOIs": null,

"Paradigm_files_links": null,

"Data_files_links": null,

"IRB_number": null,

"Scanner_site": "New York University",

"Field_strength": "3.0T",

"Citing_this_work":
"If you use this dataset in a publication,
please include as authors or acknowledge individuals as specified below.
Please also see information on publications and grants to cite.",

"Authors_to_include_on_reuse": null,

"Authors_to_acknowledge_on_reuse": "Tor Wager, Daniela Schiller, Marianne Reddan",

"Grant_numbers_to_cite": null


}
```

This video provides further instruction.



2. Next, in MATLAB open **a_set_up_paths_always_run_first.m** and change:
    a. basedir *to the filepath of your analysis folder*
3. Next, open up **prep_1_set_conditions_constrasts_colors.m** and change the paths and wildcards referring to the contrast images in your data folder:
    a. Update the *conditions* to reflect how *your* data are set up
        i. DAT.subfolders
        ii. DAT.conditions
        iii. DAT.structural_wildcard

```
% /Users/maus/Desktop/2017_AuditoryThreatConditioning/data/subj_contrasts/IE101NC/con_0001.hdr
fprintf('Image data should be in /data folder\n');

DAT = struct();

% Names of subfolders in /data
DAT.subfolders = {'subj_contrasts'};

% Names of conditions
DAT.conditions = {'CSp' 'CSm'};

DAT.conditions = format_strings_for_legend(DAT.conditions);

DAT.structural_wildcard = {};
DAT.functional_wildcard = {'IE*/con_0001.img' 'IE*/con_0002.img'};
```

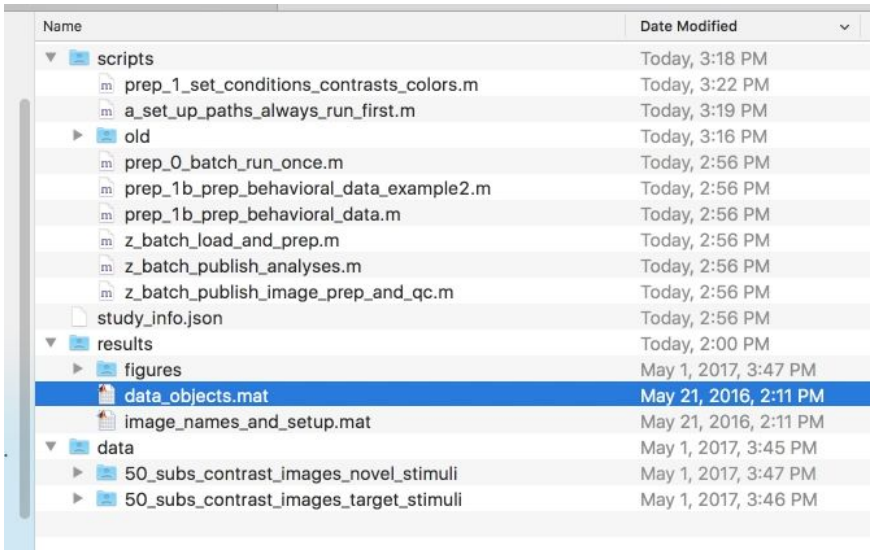
b. Update the *contrasts* to reflect what contrasts you are interested in
   i. DAT.contrasts
   ii. DAT.contrastnames

```
% Set Contrasts
% ---------------------------------------------------------------------

% Vectors across conditions
DAT.contrasts = [1 -1];

DAT.contrastnames = {'CSp_vs_CSm'};

DAT.contrastnames = format_strings_for_legend(DAT.contrastnames);
```

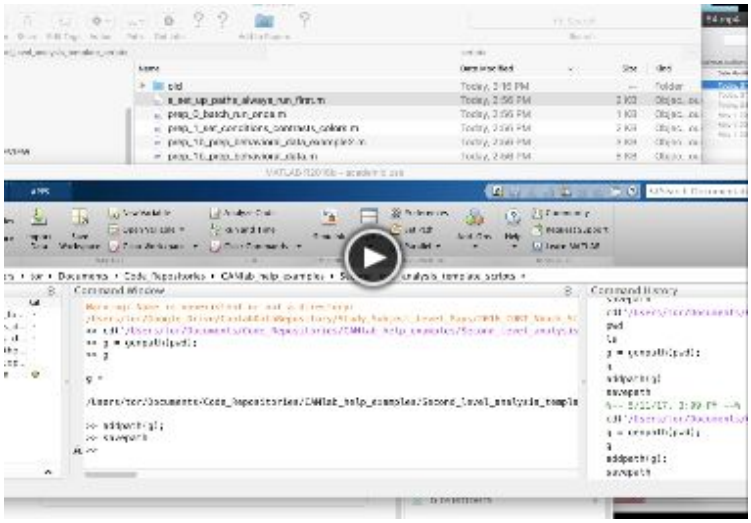
c. Update the *colors* or leave to default
d. Update *between-condition contrasts* if you have more than one subject group. If you only one group - leave it empty.

```
% Set BETWEEN-CONDITION contrasts, names, and colors
% ---------------------------------------------------------------------
% Currently used in c2c_SVM_between_condition_contrasts
%
% Matrix of [n contrasts x k conditions]

DAT.between_condition_cons = [];

DAT.between_condition_contrastnames = {};

DAT.between_condition_contrastcolors = custom_colors ([.2 .2 .8], [.2 .8 .2], si
```

4. Save & run your **a_set_up_paths_always_run_first.m** and **prep_1_set_conditions_constrasts_colors.m** in MATLAB
5. Run prep_2, 3, and 4
6. It will be saved here in **data_objects.mat**



This video provides further instruction on steps 4.2 to 4.6.



4. RUN THE BATCH AND PUBLISH

1. There are multiple options for what to run. Try **z_batch_publish_analyses.m**

And you are set. If you have issues with your file structure check out the youtube channel to learn more ways to use the wildcards.