






















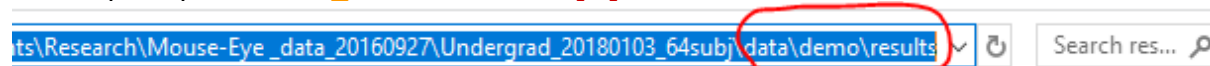
Tutorial:




Input: List of **MT_WS....mat** files as users' eye movement results

	MT_WS0401_171012_1148.mat	10/12/2017 12:03 ...	MATLAB Data	321 KB
	MT_WS0402_171012_1554.mat	10/12/2017 4:09 PM	MATLAB Data	258 KB
	MT_WS0403_171012_1751.mat	10/12/2017 6:06 PM	MATLAB Data	565 KB
	MT_WS0404_171013_1136.mat	10/13/2017 11:52 ...	MATLAB Data	428 KB
	MT_WS0406_171016_1542.mat	10/16/2017 3:57 PM	MATLAB Data	465 KB
	MT_WS0407_171016_1916.mat	10/16/2017 7:31 PM	MATLAB Data	948 KB
	MT_WS0408_171017_1546.mat	10/17/2017 4:02 PM	MATLAB Data	381 KB
	MT_WS0410_171019_1134.mat	10/19/2017 11:49 ...	MATLAB Data	498 KB
	MT_WS0411_171019_1600.mat	10/19/2017 4:15 PM	MATLAB Data	734 KB
	MT_WS0412_171019_1741.mat	10/19/2017 5:56 PM	MATLAB Data	1,092 KB
	MT_WS0413_171020_1141.mat	10/20/2017 11:56 ...	MATLAB Data	478 KB
	MT_WS0414_171025_1937.mat	10/25/2017 7:52 PM	MATLAB Data	402 KB
	MT_WS0415_171026_1342.mat	10/26/2017 1:57 PM	MATLAB Data	657 KB
	MT_WS0416_171026_1539.mat	10/26/2017 3:54 PM	MATLAB Data	553 KB
	MT_WS0417_171026_1741.mat	10/26/2017 5:57 PM	MATLAB Data	431 KB
	MT_WS0418_171027_1150.mat	10/27/2017 12:06 ...	MATLAB Data	691 KB
<input type="checkbox"/>	MT_WS0420_171030_1203.mat	10/30/2017 12:18 ...	MATLAB Data	571 KB
	MT_WS0423_171101_1134.mat	11/1/2017 11:49 AM	MATLAB Data	428 KB
	MT_WS0427_171102_1534.mat	11/2/2017 3:50 PM	MATLAB Data	1,147 KB
	MT_WS0428_171103_1144.mat	11/3/2017 11:59 AM	MATLAB Data	391 KB
	MT_WS0429_171103_1331.mat	11/3/2017 1:46 PM	MATLAB Data	710 KB
	MT_WS0431_171106_1148.mat	11/6/2017 12:03 PM	MATLAB Data	1,041 KB

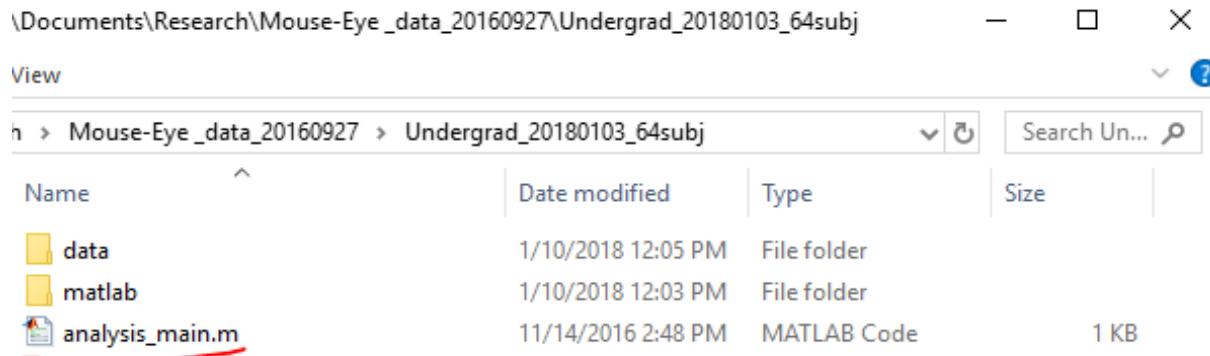
Step1: adding folders and files

- create **[...]/data** and **[...]/matlab** folders under your desired folder
- put input files **MT_WS....mat** under **[...]/data/demo/results**



<input type="checkbox"/> Name	Date modified	Type	Size
	MT_WS0401_171012_1148.mat	10/12/2017 12:03 ...	MATLAB Data 321 KB
	MT_WS0402_171012_1554.mat	10/12/2017 4:09 PM	MATLAB Data 258 KB
	MT_WS0403_171012_1751.mat	10/12/2017 6:06 PM	MATLAB Data 565 KB

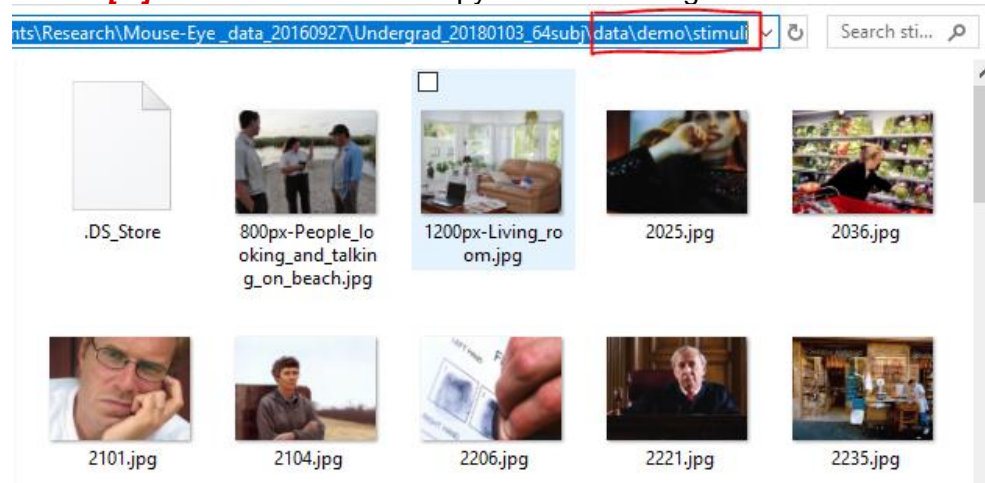
- at the root directory **[...]/**, copy **analysis_main.m** to it



- under **[...]/matlab**, copy the following matlab files

Mouse-Eye_data_20160927 > Undergrad_20180103_64subj > matlab				Search m...
Name	Date modified	Type	Size	
.DS_Store	4/26/2016 3:38 PM	DS_STORE File	7 KB	
checkRange.m	4/15/2016 1:48 AM	MATLAB Code	1 KB	
computeCenterBias.m	4/16/2016 1:41 AM	MATLAB Code	2 KB	
computeMouseFixMaps.m	4/15/2016 2:37 AM	MATLAB Code	2 KB	
heatmap_overlay.m	4/15/2016 2:50 AM	MATLAB Code	2 KB	
normalise.m	4/15/2016 1:48 AM	MATLAB Code	1 KB	
overlayFixMaps.m	4/15/2016 2:50 AM	MATLAB Code	1 KB	
parse.m	4/14/2017 10:09 AM	MATLAB Code	3 KB	
plotMouseTrajectories.m	3/23/2017 11:23 AM	MATLAB Code	2 KB	

- **[...]/data/demo/stimuli**: copy the stimuli images into it.



Step2: run **analysis_main.m** file to generate desired trajectory & fixations

```
>> analysis_main
Warning: Directory already exists.
> In parse (line 19)
    In analysis_main (line 5)
Computing fixation maps.Done in 1.94 seconds!
Computing trajectory maps.Done in 73.45 seconds!
Computing fixation maps.Done in 9.37 seconds!
```

- Results in **[...]/data/clean** and **[...]/data/figures** folders and subfolders

clean	>clean>	mouse_samples
demo		subjects.mat
figures		
	>figures>	center_bias
		fixation_heat_maps
		fixation_maps
		fixations

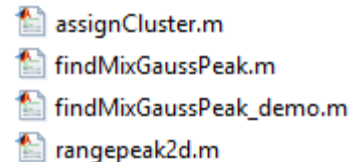
Step3: Generate cluster from clean fixation files by *findMixGaussPeak_demo.m*

- **### These files can be anywhere in your computer as long as you modify the following parameters and put the subfiles in the same folder correctly ###**
- predefined parameters in *findMixGaussPeak_demo.m*:
 - dataroot (the very first root directory before [...])
 - user (= [...])

```
% ##### DATA DIRECTORY: change to the path you have #####
dataroot = 'C:\Users\karen\Documents\Research\Mouse-Eye_data_20160927\';
user = 'Undergrad_20180103_64subj/';
% #####
```

- subfunction files needed to be included

- *assignCluster.m*
- *findMixGaussPeak.m*
- *rangepeak2d.m*



- Modificable parameters of *findMixGaussPeak.m*:
 - less: decide how many clusters you want from the fixation points
 - myFig & mydisp: display related parameters
- Results:
 - [...]/[date]allfile_[less].mat
 - allfile_10: x,y,cx,cy,cid,nowname

Step4: Display and save the cluster figures by *displmgClusters_demo.m*

- predefined parameters in *displmgClusters_demo.m*:
 - dataroot (the very first root directory before [...])
 - user (= [...])
 - allfile_name=(the name you saved in the format:[...]/[date]allfile_[less].mat)

```
% ##### DATA DIRECTORY: change to the path you have #####
dataroot = 'C:\Users\karen\Documents\Research\Mouse-Eye_data_20160927\';
user = 'Undergrad_20180103_64subj/';
allfile_name = '180110allfile_10.mat';
% #####
```

- subfunction files needed to be included

- *displmgClusters.m*
- *dispCtrRegions.m*

- Modificable parameters of *displmgClusters.m*
 - shape: display shape of the clustering results ('rectangle'/'circle')
 - save_status: to display image only or save the image (0/1)
 - myFig: display related parameters
- Results: (if save_status = 1)
 - [...]/fixation_cluster_images:
 - all the clustering images: *labeling_[idx].jpg*

Undergrad_20180103_64subj > fixation_cluster_images

