

```
%-- 2024-03-26 12:12:32 PM --%
sss_imana('ANAT:reslice_LPI','sn',1);
sss_imana('ANAT:centre_AC','sn',1);
help spm_write_vol
sss_imana('ANAT:centre_AC','sn',1);
%-- 2024-03-26 01:08:32 PM --%
sss_imana('ANAT:centre_AC');
sss_imana('ANAT:centre_AC','sn',1);
which dload
sss_imana('ANAT:centre_AC','sn',1);
size(R)
R
V
V.mat
[pinfo.locACx(pinfo.sn==sn),pinfo.locACy(pinfo.sn==sn),pinfo.locACz(pinfo.sn==sn)]
size(R)
R * [pinfo.locACx(pinfo.sn==sn),pinfo.locACy(pinfo.sn==sn),pinfo.locACz(pinfo.sn==sn)]
size(R)
t = -1 * R * [pinfo.locACx(pinfo.sn==sn),pinfo.locACy(pinfo.sn==sn),pinfo.locACz(pinfo.sn==sn)]';
V.mat(1:3,4) = t;
sss_imana('ANAT:centre_AC','sn',1);
t
R
sss_imana('ANAT:centre_AC','sn',1);
sss_imana('ANAT:reslice_LPI','sn',1);
sss_imana('ANAT:centre_AC','sn',1);
sss_imana('ANAT:reslice_LPI','sn',1);
sss_imana('ANAT:centre_AC','sn',1);
sss_imana('ANAT:segmentation','sn',1);
sss_imana('FUNC:make_fmap','sn',1);
phasediff = jsondecode(fileread(fullfile(fmapDir, ...
['sub-' subj_name '_phasediff.json'])));
fullfile(fmapDir, ...
['sub-' subj_name '_phasediff.json'])
['sub-' subj_name '_phasediff.json']
fullfile(fmapDir,['sub-' subj_name '_phasediff.json'])
sss_imana('FUNC:make_fmap','sn',1);
fullfile(fmapDir, ['sub-' subj_name], '_phasediff.json')
sss_imana('FUNC:make_fmap','sn',1);
fullfile(fmapDir, ['sub-' subj_name], '_phasediff.json')
sss_imana('FUNC:make_fmap','sn',1);
fullfile(fmapDir, '_phasediff.json')
fmapDir
subj_name
pinfo.sbj_id
pinfo = dload(fullfile(baseDir,'participants.tsv'));
% automatic detection of datashare location:
% After mounting the diedrichsen datashare on a mac computer.
if isfolder('/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI')
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
% After mounting the diedrichsen datashare on the CBS server.
elseif isfolder('/cifs/diedrichsen/data/SeqSpatialSupp_fMRI')
workdir='/cifs/diedrichsen/data/SeqSpatialSupp_fMRI';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));      % Base directory of the project
pinfo = dload(fullfile(baseDir,'participants.tsv'));
pinfo
```

```
pinfo.subj_id
pinfo.subj_id[1]
pinfo.subj_id(1)
sn
sn = 1
subj_name(sn)
subj_name{sn}
pinfo.subj_id(pinfo.sn==sn)
pinfo.subj_id(pinfo.sn==sn)
char(pinfo.subj_id(pinfo.sn==sn))
[et1, et2, tert] = spmj_et1_et2_tert(workdir, char(pinfo.subj_id(pinfo.sn==sn)));
sss_imana('FUNC:make_fmap','sn',1);
subj_name
phasediff = jsondecode(fileread(fullfile(fmapDir, ['sub-' subj_name '_phasediff.json']));
phasediff = jsondecode(fileread(fullfile(fmapDir, ['sub-' subj_name '_phasediff.json'))));
sss_imana('FUNC:make_fmap','sn',1);
sss_imana('FUNC:realign_unwarp','sn',1);
which spmj_realign_unwarp
edit spmj_realign_unwarp
%-- 2024-03-26 03:58:56 PM --%
sss_imana('FUNC:realign_unwarp
sss_imana('FUNC:realign_unwarp','sn',1);
which file_array
sss_imana('FUNC:realign_unwarp','sn',1);
dat
NO
NO
V.fname
nifti(ans)
sss_imana('FUNC:realign_unwarp','sn',1);
V.name
V.fname
V
V.pinfo
V
V.n
V.dt
spm_type('float64')
dt
V.dt
dt
V.pinfo
ext
bits
minoff
V.pinfo
N
N.mat
V
V.private.
V.private
V.private.timing
i
f
f.fname
f{1}
i
numel(V)
```

```
V
numel(V)
~isempty(N0)
i
V
V.private
V.private.data
V.private.dat
i
V
V.private.dat
V.pinfo
i
P
P{1}
J
job
job.data
job.data{1}
job{1}
job.data{1}
job.data(1)
job.data(1).scans
job{1}
job.data(1)
P1
P1.number
P1
help spm_file
i
sss_imana('FUNC:move_realigned_images','sn',1);
sss_imana('FUNC:meanimage_bias_correction','sn',1);
rtm
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:coreg','sn',1,'prefix','u','rtm',0);
PO
PO
sss_imana('FUNC:coreg','sn',1,'prefix','u','rtm',0);
PO
sss_imana('FUNC:coreg','sn',1,'prefix','u','rtm',0);
spm_select('expand',PO)
file
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:meanimage_bias_correction','sn',1);
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:make_samealign','sn',1);
coregtool
which coregtool
coretool
coregtool
sss_imana('FUNC:coreg','sn',1,'prefix','cc','rtm',0);
sss_imana('FUNC:coreg','sn',1,'prefix','x','rtm',0);
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:coreg','sn',1,'prefix','x','rtm',0);
sss_imana('FUNC:coreg','sn',1);
edit spm_coreg
sss_imana('FUNC:coreg','sn',1);
help spm_vol
help spm_read_vol
help spm_read_vols
```

```
help spm_vol
Pr = spm_read_vol('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw/S01/S01_run_01.nii');
Pr = spm_read_vols('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw/S01/S01_run_01.nii');
Pr = spm_vol('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw/S01/S01_run_01.nii');
Pr
Pr(1)
Pr(1).private
max(Pr(1).private.data)
max(Pr(1).private.dat)
size(Pr(1).private.dat)
Pr(1).private.dat(:,:,1,1)
max(Pr(1).private.data)
max(Pr(1).private.dat)
figure;imagesc(Pr(1).private.dat(:,:,1,1))
size(Pr(1).private.dat)
figure;imagesc(Pr(1).private.dat(:,:,20,1))
figure;imagesc(Pr(1).private.dat(:,:,20,2))
P = spm_vol('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data/S01/us01_run_01.nii');
figure;imagesc(P(1).private.dat(:,:,20,2))
figure;imagesc(P(1).private.dat(:,:,20,1))
figure;for i=1:20 subplot(5,4,i); imagesc(P(1).private.dat(:,:,20,i));end
figure;for i=1:20 subplot(10,10,i); imagesc(P(1).private.dat(:,:,20,i));end
figure;for i=1:100 subplot(10,10,i); imagesc(P(1).private.dat(:,:,20,i));end
Pw = spm_vol('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data/S01/wfmag_S01_run_01.nii');
Pw = spm_vol('~/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw/S01/wfmag_S01_run_01.nii');
Pw
figure;imagesc(Pw.private.dat(:,:,1))
figure;for i=1:100 subplot(10,10,i); imagesc(Pw.private.dat(:,:,i));end
figure;for i=1:100 subplot(10,10,i); imagesc(Pw.private.dat(:,i,:));end
figure;for i=1:100 subplot(10,10,i); imagesc(squeeze(Pw.private.dat(:,i,:)));end
figure;for i=1:100 subplot(10,10,i); imagesc(squeeze(Pw.private.dat(i,:,:)));end
sss_imana('FUNC:realign_unwarp', 'sn', 1);
job.rtm
job.eoptions.rtm
sess.ds
cat(2,sess.ds)
save until_spm_uw_apply
edit spm_write_vol
~isempty(N0)
V
V.private
figure;for i=1:30 subplot(6,5,i); imagesc(V.private.dat(:,:,i,1));end
figure;for i=1:30 subplot(6,5,i); imagesc(V.private.dat(:,:,i,1));end
figure;for i=1:30 subplot(6,5,i); imagesc(V.private.dat(:,:,i,2));end
figure;for i=1:30 subplot(6,5,i); imagesc(V.private.dat(:,:,i,3));end
single(N.dat.scl_slope)
single(N0.dat.scl_slope)
N0
V.fname
N0 = nifti(V.fname);
V.fname
VV = spm_vol('us01_run_01.nii');
```

```
VV
figure;for i=1:30 subplot(6,5,i); imagesc(VV.private.dat(:,:,:,:,i,3));end
VV.private
VV = spm_read_vol('uS01_run_01.nii');
VV = spm_read_vols('uS01_run_01.nii');
help spm_vol
clear VV
V.pinfo
N0
single(N.dat.scl_slope) ~= single(N0.dat.scl_slope) && (size(N0.dat,4)>1 || v.n(1)>1)
VV = spm_read_vols('uS01_run_01.nii');
VV = spm_vol('uS01_run_01.nii');
VV
VV.private
VV = spm_read_vols('uS01_run_01.nii');
V
V.private
VV = spm_vol('uS01_run_01.nii');
VV.private
VV.private.dat
VV.private
VV.private.dat
VV.private(1)
VV.private
V
V.private
V.private.dat
V.private
VV = spm_vol('uS01_run_01.nii');
VV
VV.private
VV.private.dat
VV(1).private.dat
VV
VV.private
VV(1).private
VV(1).private.dat
sss_imana('FUNC:move_realigned_images','sn',1);
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:meanimage_bias_correction','sn',1);
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:make_samealign','sn',1);
sss_imana('FUNC:make_maskImage','sn',1);
which movefile
sss_imana('FUNC:make_maskImage','sn',1);
help movefile
sss_imana('FUNC:make_maskImage','sn',1);
source
dest
sss_imana('FUNC:make_maskImage','sn',1);
sss_imana('FUNC:make_maskImage','sn',1);
sss_imana('FUNC:make_maskImage','sn',1);
movefile(source,dest);
sss_imana('FUNC:make_maskImage','sn',1);
nam
nam{1} = fullfile(baseDir, imagingDir, subj_id, ['rbmean' prefix subj_id '_run_' ↵
run_list_cell{1} '.nii']);
nam{2} = fullfile(baseDir, anatomicalDir, subj_id, ['c1' subj_id, '_anatomical.nii']);
spm_imcalc(nam, 'rmask_gray.nii', 'i1>1 & i2>0.4')
source = fullfile(imagingDir,subj_id,'rmask_gray.nii');
```

```
dest = fullfile(anatomicalDir,subj_id,'rmask_gray.nii');
movefile(source,dest);
sss_imana('FUNC:make_maskImage','sn',1);
%-- 2024-04-01 10:03:14 AM --%
which spm12
edit ssm_imana
edit sss_imana.m
sss_imana('FUNC:realign_unwarp');
sss_imana('FUNC:realign_unwarp','sn',1);
sss_imana('FUNC:move_realigned_images','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
s=1
sss_imana('FUNC:move_realigned_images','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s);
sss_imana('FUNC:meanimage_bias_correctio');
sss_imana('FUNC:meanimage_bias_correctio','sn',1);
sss_imana('FUNC:meanimage_bias_correction','sn',1);
fsleyes
sss_imana('FUNC:coreg','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('make_maskImage','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
source
nam
nam{1}
nam{2}
nam{3}
nam{4}
subj_id
spm_imcalc(nam, 'rmask_noskull.nii', 'i1>1 & (i2+i3+i4)>0.2')
sss_imana('FUNC:make_maskImage','sn',s);
nam{1}
nam{2}
spm_imcalc(nam, 'rmask_noskull.nii', 'i1>1 & (i2+i3+i4)>0.2')
help spm_imcalc
which spm_imcalc
sss_imana('FUNC:make_maskImage','sn',s);
sss_imana('GLM:Design','sn',s, 'glm',1);
which dload
construct_dsgmat(1);
S
fullfile(workdir, behavDir, sprintf(dat_format, s, s))
ls /Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI/behavDir/sub-S01/ssh__S01.dat
which dload
sss_imana('GLM:Design','sn',s, 'glm',1);
construct_dsgmat(1);
sss_imana('GLM:Design','sn',s, 'glm',1);
sss_imana('GLM:estimate','sn',1, 'glm',1, 'fig',1);
load('SPM.mat')
SPM
load('SPM_info.mat')
SPM
SPM.xGX
SPM.xx
SPM.xx.K
SPM.xx.K.row
SPM.xx.K
```

```
SPM.xX.K.X0
size(ans)
SPM.xX.K
SPM.xX
SPM.K
SPM.xX.K
SPM
SPM.xGX
SPM.xY
SPM.xY.VY
sss_imana('GLM:estimate','sn',1, 'glm',1, 'fig',0);
68*8
64*8
65*8
load('SPM.mat')
dm = SPM.xX.xKXs.X(SPM.Sess(1).row,SPM.Sess(1).col); % design matrix for one run
figure; imagesc(dm); axis square; colorbar;
title('Design matrix'); xlabel('Regressors'); ylabel('Volumes'); set(gca, 'fontsize',fs)
cv = cov(dm); % covariance matrix for one run
varE = nanmean(diag(inv(cv))); % mean variance of the regression estimates
varX = nanmean(1./diag(cv)); % mean variance of the regressors in the design matrix
vif = varE ./ varX; % variance inflation factor
figure;
subplot(2,2,1)
imagesc(cv); axis square; title('Covariance matrix'); colorbar;
subplot(2,2,2)
imagesc(inv(cv)); axis square; title('Inverse of the covariance'); colorbar;
subplot(2,2,3)
imagesc(1./diag(cv)); axis square; title('Mean variance per regressor'); colorbar;
subplot(2,2,4)
imagesc(inv(cv)./(1./cv)); axis square; title('Covariance inflation factor'); colorbar;
fprintf(1, '\nVariance estimates: %2.3f\nVariance regressors: %2.3f\nVariance inflation factor: %2.3f (the closer to 1, the better)\n', varE, varX, vif);
size(dm)
spm
sss_imana('GLM:estimate','sn',1, 'glm',2, 'fig',0);
sss_imana('GLM:Design','sn',1, 'glm',2);
sss_imana('GLM:estimate','sn',1, 'glm',2, 'fig',0);
sss_imana('GLM:Design','sn',1, 'glm',1);
spm
sss_imana('GLM:estimate','sn',1, 'glm',2, 'fig',0);
sss_imana('GLM:estimate','sn',1, 'glm',1, 'fig',0);
load('SPM_info.mat')
sss_imana('GLM:Design','sn',1, 'glm',1);
sss_imana('GLM:Design','sn',1, 'glm',1);
sss_imana('GLM:estimate','sn',1, 'glm',1, 'fig',0);
load('SPM_info.mat')
68*8
load('SPM_info.mat', 'run')
load('SPM_info.mat', 'taskUni')
load('SPM_info.mat', 'task')
R = construct_dsgmat(1,1)
R.cond
sss_imana('GLM:Design','sn',1, 'glm',1);
sss_imana('GLM:estimate','sn',1, 'glm',1, 'fig',0);
load SPM
SPM.X
SPM
SPM.xX.X
```

```
for i=1:20 subplot(5,4,i); plot(SPM.xX.X(:,i));end
figure
for i=1:20 subplot(5,4,i); plot(SPM.xX.X(:,i));end
figure; imagesc(SPM.xX.X0
figure; imagesc(SPM.xX.X)
sss_imana('FUNC:make_fmap','sn',1);
sss_imana('FUNC:realign_unwarp','sn',1);
sss_imana('FUNC:move_realigned_images','sn',1);
sss_imana('FUNC:meanimage_bias_correction','sn',1);
sss_imana('FUNC:coreg','sn',1);
sss_imana('FUNC:make_samealign','sn',1);
sss_imana('FUNC:make_maskImage','sn',1);
sss_imana('GLM:Design','sn',1);
sss_imana('GLM:Design','sn',1,'glm',1);
sss_imana('GLM:estimate','sn',1,'glm',1,'fig',0);
sss_imana('GLM:Design','sn',1,'glm',1);
sss_imana('GLM:estimate','sn',1,'glm',1,'fig',0);
sss_imana('GLM:Design','sn',1,'glm',1);
sss_imana('GLM:estimate','sn',1,'glm',1,'fig',0);
sss_imana('glm_Tcontrast','sn',1,'glm',1);
size(optC(1,:))
sss_imana('glm_Tcontrast','sn',1,'glm',1);
size( optC(i,:))
optC(i,:)
%-- 2024-04-03 03:49:08 PM --%
sss_imana('glm_Tcontrast','sn',1,'glm',1);
c
size(c)
sL
sss_imana('glm_Tcontrast','sn',1,'glm',1);
save(fullfile(baseDir, sprintf(glmDir, glm), 'SPM_light.mat'), 'SPM')
% rename contrast images and spmT images
conName = {'con','spmT'};
for i = 1:length(SPM.xCon)
for n = 1:numel(conName)
oldName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('%s_%2.4d.nii',conName{n}),SPM.xCon(i).name);
newName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('%s_%s.nii',conName{n},SPM.xCon(i).name));
movefile(oldName, newName);
end % conditions (n, conName: con and spmT)
end % i (contrasts)
oldName
save(fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), 'SPM_light.mat'), 'SPM')
% rename contrast images and spmT images
conName = {'con','spmT'};
for i = 1:length(SPM.xCon)
for n = 1:numel(conName)
oldName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%2.4d.nii',conName{n},i));
newName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%s.nii',conName{n},SPM.xCon(i).name));
movefile(oldName, newName);
end % conditions (n, conName: con and spmT)
end % i (contrasts)
load('SPM_light.mat')
SPM.xCon
SPM.xCon(2)
SPM.xCon(2).c
```

```
SPM.xCon(1).c
sss_imana('glm_Tcontrast','sn',1,'glm',1);
con
optC
sss_imana('glm_Tcontrast','sn',1,'glm',1);
R = construct_dsgmat(1,1);
con = calc_contrasts(R);
con
figure;plot(con(1,:));hold on;plot(con(2,:),'r')
figure;plot(con(1,:));hold on;plot(con(2,:),'r');ylim([-1.5 1.5]);
figure;plot(con(1,:));hold on;plot(con(2,:),'r');ylim([-1.5 1.5]);
edit calc_optCont
load('SPM.mat')
optC = calc_optCont(SPM, con)
corrcoef(optC(1,:),con(1,:))
size(optC(1,:))
size(con)
corrcoef(optC(1,1:544),con(1,:))
corrcoef(optC(2,1:544),con(2,:))
figure;plot(optC(1,:));hold on;plot(con(1,:),'r');
sum(con,2)
sum(con(1,:))
sum(optCon(1,:))
sum(optC(1,:))
sum(optC(2,:))
optC(1,:)
figure;plot(100*optC(1,:));hold on;plot(con(1,:),'r');
figure;subplot(2,1,1);plot(100*optC(1,:));hold on;plot(con(1,:),'r');end
figure;for subplot(2,1,2);plot(100*optC(1,:));hold on;plot(con(1,:),'r');end
for subplot(2,1,3);plot(100*optC(1,:));hold on;plot(con(1,:),'r');end
figure for i=1:2 subplot(2,1,i);plot(100*optC(i,:));hold on;plot(con(i,:),'r');end
figure; for i=1:2 subplot(2,1,i);plot(100*optC(i,:));hold on;plot(con(i,:),'r');end
R
unique(R.cond)
R = construct_dsgmat(1,2);
unique(R.cond)
R.dur
R.onset
R.cond
sss_imana('GLM:design','sn',1,'glm',2);
sss_imana('GLM:Design','sn',1,'glm',2);
sss_imana('GLM:estimate','sn',1,'glm',2,'fig',0);
spm
sss_imana('GLM:Design','sn',1,'glm',2);
load SPM
SPM.xx
SPM.xx.X
size(ans)
figure; for i=1:32 subplot(4,8,i);plot(SPM.xx.X(:,i));end
sss_imana('GLM:Design','sn',1,'glm',2);
figure; for i=1:32 subplot(4,8,i);plot(SPM.xx.X(:,i));end
load SPM
figure; for i=1:32 subplot(4,8,i);plot(SPM.xx.X(:,i));end
figure; for i=1:3 subplot(1,3,i);plot(SPM.xx.X(1:410,i));end
figure; for i=1:3 subplot(1,3,i);plot(SPM.xx.X(1:410,i));hold on;end
figure; for i=1:3 plot(SPM.xx.X(1:410,i));hold on;end
sss_imana('GLM:estimate','sn',1,'glm',2,'fig',0);
which spms_dR = construct_dsgmat(sn, glm);
R = construct_dsgmat(sn, glm);
R = construct_dsgmat(1,2);
```

```
R
con = calc_contrasts(R);
con
R = construct_dsgmat(1,3);
sss_imana('GLM:Design','sn',1,'glm',3);
sss_imana('glm_Tcontrast','sn',1,'glm',2,'fig',0);
sss_imana('glm_Tcontrast','sn',1,'glm',2);
sss_imana('GLM:estimate','sn',1,'glm',3,'fig',0);
sss_imana('MNI:norm_write','sn',1);
P
con_RepvsNon-Motor
%-- 2024-04-04 02:55:05 PM --%
help addpath
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spml2'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
if isfolder('/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI')
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
% After mounting the diedrichsen datashare on the CBS server.
elseif isfolder('/cifs/diedrichsen/data/SeqSpatialSupp_fMRI')
workdir='/cifs/diedrichsen/data/SeqSpatialSupp_fMRI';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spml2'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spml2'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
sss_imana('MNI:norm_write','sn',1);
job
P      = [repmat(job{:,},3,1), [',1,1';',1,2';',1,3']];
job{::}
which spmdefs_get_def
P = '/cifs/diedrichsen/data/SeqSpatialSupp_fMRI/anatomicals/S01/S01_anatomical.nii';
fname = P;
P      = [repmat(fname,3,1), [',1,1';',1,2';',1,3']];
V      = spm_vol(P);
Def    = cell(3,1);
Def{1} = spm_load_float(V(1));
Def{2} = spm_load_float(V(2));
Def{3} = spm_load_float(V(3));
mat   = V(1).mat;
% Load a deformation field saved as an image
P      = [repmat(job{:,},3,1), [',1,1';',1,2';',1,3']];
V      = spm_vol(P);
Def    = cell(3,1);
Def{1} = spm_load_float(V(1));
Def{2} = spm_load_float(V(2));
Def{3} = spm_load_float(V(3));
mat   = V(1).mat;
P
% Load a deformation field saved as an image
P      = [repmat(fname,3,1), [',1,1';',1,2';',1,3']];
V      = spm_vol(P);
```

```
Def      = cell(3,1);
Def{1}   = spm_load_float(V(1));
Def{2}   = spm_load_float(V(2));
Def{3}   = spm_load_float(V(3));
mat     = V(1).mat;
V
V(1).mat
V(2)
which spmj_normalization_write
edit spmj_normalization_write
edit spmdefs_get_def
sss_imana('glm_Tcontrast','sn',1,'glm',3);
sss_imana('glm_Tcontrast','sn',1,'glm',1);
sss_imana('GLM:design','sn',1,'glm',4);
sss_imana('GLM:estimate','sn',1,'glm',4);
sss_imana('GLM:estimate','sn',1,'glm',4,'fig',0);
sss_imana('glm_Tcontrast','sn',1,'glm',4);
SPM.xCon
SPM.xCon.c
length(SPM.xCon)
sss_imana('glm_Tcontrast','sn',1,'glm',4);
length(SPM.xCon)
SPM
SPM.xCon
SPM.xCon.c
sss_imana('glm_Tcontrast','sn',1,'glm',4);
SPM.xCon
load('SPM.mat')
SPM.xCon
SPM.xCon.c
sum(SPM.xCon.c)
sum(SPM.xCon.c,1)
SPM.xCon.c
sum(ans)
load('SPM.mat')
figure;for i=1:24 subplot(4,6,i);plot(SPM.xx.X(:,i));end
R = construct_dsgmat(1,4);
R
R.cond
edit construct_dsgmat
sss_imana('GLM:design','sn',1,'glm',4);
SPM
spm
R.onset
sss_imana('GLM:design','sn',1,'glm',4);
sss_imana('GLM:estimate','sn',1,'glm',4,'fig',0);
sss_imana('glm_Tcontrast','sn',1,'glm',4);
sss_imana('glm_Tcontrast','sn',1,'glm',5);
sss_imana('GLM:tcontrast','sn',1,'glm',5);
sss_imana('GLM:tcontrast','sn',1,'glm','Lssbetas');
sss_imana('GLM:tcontrast','sn',1,'glm',5);
sss_imana('surf_freesurfer','sn',1);
%-- 2024-04-12 10:39:11 AM --%
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
sss_imana('WB:surf_resample','sn',1,'surf','32k');
edit surf_resliceFS2WB
which surf_resliceFS2WB
help surf_resliceFS2WB
```

```

sss_imana('WB:surf_resample','sn',1,'surf','32k');
ismac
isunix
sss_imana('WB:surf_resample','sn',1,'surf','32k');
sss_imana('GLM:contrast','sn',1,'glm',5);
%-- 2024-04-17 04:11:14 PM --%
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';               % Temporary directory for raw↖
functional data
imagingDir   = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                  % Preprocessed anatomicalcentr data↖
(LPI + center AC + segemnt)
fmapDir      = 'fieldmaps';                     % Fieldmap dir after moving from BIDS↖
and SPM make fieldmap
suitDir      = 'suit';
regDir       = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
% atlasDir =
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
workdir='/cifs/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';               % Temporary directory for raw↖
functional data
imagingDir   = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                  % Preprocessed anatomicalcentr data↖
(LPI + center AC + segemnt)
fmapDir      = 'fieldmaps';                     % Fieldmap dir after moving from BIDS↖
and SPM make fieldmap
suitDir      = 'suit';
regDir       = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
% atlasDir =
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));

```

```
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
workdir
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
sss_imana('WB:vol2surf_indiv','sn',1,'glm',1,'hemis',[1 2],'map','con','surf','32k');
sss_imana('WB:vol2surf_indiv','sn',1,'glm',1,'map','con');
h
hem{1}
hem
surfDir
sss_imana('WB:vol2surf_indiv','sn',1,'glm',1,'map','con');
which surf_vol2surf
addpath(genpath(['/cifs/diedrichsen/matlab/imaging/surfing']));
sss_imana('WB:vol2surf_indiv','sn',1,'glm',1,'map','con');
load('SPM.mat')
SPM.xCon.name
sss_imana('WB:vol2surf_indiv','sn',1,'glm',2,'map','t');
sss_imana('WB:vol2surf_indiv','sn',1,'glm',3,'map','t');
sss_imana('PREP:step1','sn',[2 3]);
anat_raw_path
sss_imana('PREP:step1','sn',[2 3]);
anat_raw_path
sss_imana('PREP:step1','sn',[2 3]);
pinfo.AnatRawName
anat_raw_path
sss_imana('PREP:step1','sn',[2 3]);
fullfile(baseDir,BIDSDir,sprintf('sub-S%.02d',sn),'anat',[char(pininfo.AnatRawName(pininfo.✓
sn==sn)) '.nii.gz']);
pininfo.sn
pininfo
sss_imana('PREP:step1','sn',[2 3]);
fullfile(baseDir,BIDSDir,sprintf('sub-S%.02d',sn),'anat',[char(pininfo.AnatRawName(pininfo.✓
sn==sn)) '.nii.gz']);
pininfo
pininfo = dload(fullfile(baseDir,'participants.tsv'));
pininfo
baseDir
pininfo = dload(fullfile(baseDir,'participants.tsv'));
which dload
pininfo = dload(fullfile(baseDir,'participants.tsv'));
pininfo
edit dload
pininfo = dload(fullfile(baseDir,'participants.tsv'));
Indx
A
length(A)
max(Indx)
pininfo
pininfo = dload(fullfile(baseDir,'participants.tsv'));
pininfo
pininfo = dload(fullfile(baseDir,'participants.tsv'));
pininfo
sss_imana('PREP:step1','sn',[2 3]);
sss_imana('BIDS:move_unzip_raw_func','sn',2);
run_list
length(run_list)
pininfo
pininfo.runlist
```

```
sss_imana('BIDS:move_unzip_raw_func','sn',2);
sss_imana('PREP:step1','sn',[2 3]);
sss_imana('ANAT:segmentation','sn',2));
sss_imana('ANAT:segmentation','sn',2);
sss_imana('ANAT:segmentation','sn',3);
sss_imana('PREP:step2','sn',[2 3]);
sss_imana('PREP:step1','sn',2);sss_imana('PREP:step2','sn',2);
workdir
% After mounting the diedrichsen datashare on a mac computer.
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spml2'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
sss_imana('PREP:step1','sn',2);sss_imana('PREP:step2','sn',2);
%-- 2024-04-24 03:10:17 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spml2'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
sss_imana('GLM:design','sn',2,'glm',1);sss_imana('GLM:estimate','sn'
for s=2:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
construct_dsgmat(2);
which dload
for s=2:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
construct_dsgmat(2);
which dload
construct_dsgmat(2);
S
```

```
fullfile(workdir, behavDir, sprintf(dat_format, s, s))
workdir
fullfile(workdir, behavDir, sprintf(dat_format, s, s))
construct_dsgmat(2);
workdir
construct_dsgmat(2);
for s=2:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
R=construct_dsgmat(2);
R
length(R.ts)
for s=2:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
sss_imana('GLM:design','sn',s,'glm',1);
R.dur
R=construct_dsgmat(2);
R=construct_dsgmat(2,1);
R
R.dur
for s=1:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
sss_imana('FUNC:make_maskImage','sn',2);
sss_imana('FUNC:make_maskImage','sn',3);
for s=2:3
sss_imana('GLM:design','sn',s,'glm',1);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1);
end
%-- 2024-04-25 11:36:06 AM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
%
% addpath(genpath(workdir));
% addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
% addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
% addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
% addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';               % Temporary directory for raw
functional data
```

```
imagingDir      = 'imaging_data'; % Preprocesses functional data
anatomicalDir   = 'anatomicals'; % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir         = 'fieldmaps'; % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir         = 'suit';
regDir          = 'RegionOfInterest';
freesurferDir   = 'freesurf';
wbDir = 'surfaceWB'; % standard surface?
glmDir = '/glm_%d';
% atlasDir =
%
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
% % % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
sss_imana('ROI:findall');
which surf_makelabelGifti
which region_calcregions
edit region_calcregions
[P, ROI_name] = sss_imana('ROI:findall');
P
sum(P)
unique(P)
edit surfing_nodeidxs2coords
edit surfing_nodeidxs2coords
sss_imana('ROI:redefine','sn',1);
sss_imana('ROI:redefine','sn',1);
sss_imana('ROI:redefine','sn',1);
which surfing_nodeidxs2coords
sss_imana('ROI:redefine','sn',1);
edit surfing_nodeidxs2coords
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
sss_imana('ROI:redefine','sn',1);
which triangulation
sss_imana('ROI:redefine','sn',1);
sss_imana('ROI:redefine','sn',1);
topo_data
TR=triangulation(topo_data,ca(:,1),ca(:,2),ca(:,3));
which load_surf
TR=triangulation(double(topo_data),ca(:,1),ca(:,2),ca(:,3));
TR=triangulation(double(topo_data),ca(:,1),ca(:,2),ca(:,3));
TR=triangulation(double(topo_data),double(ca(:,1)),double(ca(:,2)),double(ca(:,3)));
TR
R{c}.white
which gifti
c = gifti(R{c}.white);
isfield(c,'aces')
isfield(c,'faces')
c.faces
which cifti
which gifti
sss_imana('PREP:step0','sn',5);
sss_imana('PREP:step1','sn',5);
sss_imana('FUNC:realign_unwarp','sn',5,'rtm',0);
```

```
s=5
sss_imana('FUNC:move_realigned_images','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('PREP:step2','sn',5);
sss_imana('GLM:design','sn',5,'glm',1); sss_imana('GLM:estimate','sn',5,'glm',1,'fig',0);
sss_imana('GLM:design','sn',5,'glm',1); sss_imana('GLM:estimate','sn',5,'glm',1,'fig',0);
test
sss_imana('surf_freesurfer','sn',2);sss_imana('surf_freesurfer','sn',3);sss_imana('surf_freesurfer','sn',5);
%-- 2024-04-29 10:26:34 AM --%
test
anat_raw_path
sss_imana('GLM:tcontrast','sn',1,'glm',2);
R
sss_imana('GLM:tcontrast','sn',1,'glm',2);
R.transID
R
R.R
sss_imana('GLM:tcontrast','sn',1,'glm',2);
s=1;
for g=3:4
sss_imana('GLM:design','sn',s,'glm',g);
sss_imana('GLM:estimate','sn',s,'glm',g,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',g);
end
%-- 2024-04-29 11:31:47 AM --%
sss_imana('PREP:step0','sn',6);
sss_imana('PREP:step1','sn',6);
sss_imana('PREP:step2','sn',6);
test
sss_imana('GLM:design','sn',2,'glm',1);sss_imana('GLM:design','sn',2,'glm',1);
test
s
g
sss_imana('GLM:tcontrast','sn',s,'glm',g);
sss_imana('GLM:tcontrast','sn',1,'glm',g);
SPM.xCon
R
R.cond
test
%-- 2024-04-29 10:27:43 PM --%
sss_imana('GLM:pcs','sn',1,'glm',2);
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/scripts'
sss_imana('GLM:pcs','sn',1,'glm',2);
sss_imana('GLM:psc','sn',1,'glm',2);
numB
SPM.xx.iB
P
SPM.xCon(con).name
P{numB+1}=sprintf('con_%s.nii',SPM.xCon(con).name); % replace with T.con_name
{con} in case
outname=sprintf('psc_%s.nii',SPM.xCon(con).name);
sss_imana('GLM:psc','sn',1,'glm',2);
sss_imana('GLM:psc','sn',2,'glm',2);sss_imana('GLM:psc','sn',3,'glm',2);
sss_imana('GLM:psc','sn',5,'glm',2);sss_imana('GLM:psc','sn',6,'glm',2);
edit test2
test2
edit test2
```

```
sss_imana('WB:vol2surf_indiv','sn',1,'glm',2,'map','psc');
fnames
fnames{1}
outfile
V=spm_vol(outfile);
test2
test2
test2
test2
s
sss_imana('WB:vol2surf_indiv','sn',s,'glm',4,'map','con');
test2
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_1/S01/SPM.mat')
SPM.xCon
sss_imana('WB:vol2surf_indiv','sn',1,'glm',1,'map','con');
test
edit spm_get_defaults
edit spm_rwls_spm
test
s=2
sss_imana('GLM:design','sn',s,'glm',3);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
test
s=2
sss_imana('GLM:tcontrast','sn',s,'glm',1, 'opt',1);
test
R = construct_dsgmat(1,1);
R
edit construct_dsgmat
edit test
test
%-- 2024-05-01 11:53:17 AM --%
sss_imana('GLM:psc','sn',1,'glm',1);
formula
P
edit test
edit normdata
edit test
sss_imana('GLM:tcontrast','sn',1,'opt',0);
sss_imana('GLM:tcontrast','sn',1,'glm',1,'opt',0);
optC = calc_LSSbetasWeights(SPM);
LSSweights = optC;
save('optC.mat','LSSweights')
size(optC)
figure;for i=1:15 plot(5,3,i);plot(optC(i,:));end
figure;for i=1:15 subplot(5,3,i);plot(optC(i,:));end
figure;for i=1:15 subplot(5,3,i);plot(optC(i,:),[1:68]);end
figure;for i=1:15 subplot(5,3,i);plot(optC(i,:)),xlim([0 68]);end
figure;for i=1:15 subplot(5,3,i);plot(optC(i,:)),xlim([0 68]);end
optC = calc_LSSbetasWeights(SPM);
sum(optC,1)
X = SPM.X(:,1:end-length(SPM.nscan));
C = zeros(nTr*nRun,2);
C(find(R.isRepMotor'==1)-1,1) = 1;
C(:,2) = ones(nTr*nRun,1)-C(:,1);
optW = inv(C'*X'*X*C)*C'*X'*X;
optC(1,:) = [optW(1,:); zeros(1,nRun)];
save('optC.mat','LSSweights','optC','C');
figure;plot(optC(1,:));hold on;plot(C(:,1));
figure;plot(optC(1,:));hold on;plot(C(:,1),'r');
```

```
figure;plot(optC(1,:));hold on;plot(C(:,1),'r');ylim([-0.2 1.2]);
X = SPM.xX.X(:,1:end-length(SPM.nscan));
C = zeros(nTr*nRun,2);
C(find(R.isRepMotor'==1)-1,1) = 1;
C(:,2) = ones(nTr*nRun,1)-C(:,1);
optW = inv(C'*X'*X*C)*C'*X'*X;
optC(1,:) = [optW(1,:)' zeros(1,nRun)];
C = zeros(nTr*nRun,2);
C(find(R.isRepMotor'==1),1) = 1;
C(:,2) = ones(nTr*nRun,1)-C(:,1);
optW = inv(C'*X'*X*C)*C'*X'*X;
optC(2,:) = [optW(1,:)' zeros(1,nRun)];
optC(3,:) = optC(2,:)-optC(1,:);
size(optW)
sum(optC)
sum(optC,2)
X = SPM.xX.X(:,1:end-length(SPM.nscan));
C = zeros(nTr*nRun,2);
C(find(R.isRepMotor'==1)-1,1) = 1;
C(:,2) = ones(nTr*nRun,1)-C(:,1);
optW = inv(C'*X'*X*C)*C'*X'*X;
optC(1,:) = [optW(1,:)' zeros(1,nRun)];
C = zeros(nTr*nRun,2);
C(find(R.isRepMotor'==1),1) = 1;
C(:,2) = ones(nTr*nRun,1)-C(:,1);
optW = inv(C'*X'*X*C)*C'*X'*X;
optC(2,:) = [optW(1,:)' zeros(1,nRun)];
optC(3,:) = optC(2,:)-optC(1,:);
test3
test3
%-- 2024-05-02 10:31:49 AM --%
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
%
% addpath(genpath(workdir));
% addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
% addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
% addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
% addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
baseDir      = (sprintf('%s',workdir));      % Base directory of the project
BIDSDir     = 'BIDS';                      % Raw data post AutoBids conversion
behavDir     = 'behavDir';                  % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';        % Temporary directory for raw
```

```

functional data
imagingDir      = 'imaging_data';                                % Preprocesses functional data
anatomicalDir   = 'anatomicals';                                 % Preprocessed anatomical centr data ↵
(LPI + center AC + segemnt)
fmapDir         = 'fieldmaps';                                  % Fieldmap dir after moving from BIDS ↵
and SPM make fieldmap
suitDir         = 'suit';
regDir          = 'RegionOfInterest';
freesurferDir   = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
% atlasDir =
%
%% addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
%% addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
%% %% %% %% addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
test
sss_imana('ROI:getpsc','sn',[1 2 3 5 6]);
sss_imana('ROI:getpsc','sn',[1 2 3 5 6],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',2);
%-- 2024-05-02 12:22:56 PM --%
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
sss_imana('ROI:plotSSSavg','sn',[1 2 3 5 6],'glm',2,'ptype',6);
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/scripts'
sss_imana('ROI:plotSSSavg','sn',[1 2 3 5 6],'glm',2,'ptype',6);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',2,'ptype',6);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',2,'ptype',7);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',2,'ptype',8);
R = construct_dsgmat(1,1);
R
test
test
R
test
sss_imana('ROI:getpsc','sn',[1 2 3 5 6],'glm',1);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',6);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',7);
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',8);
test
edit test
test
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6]);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_1/S01/SPM.mat')

```

```
SPM.xCon
SPM.xCon.name
sss_imana('WB:vol2surf_stats','sn',[1 2 3 5 6]);
groupfiles
groupfiles{1}
nc
help gifti
gifti(groupfiles{ic})
groupfiles{ic}
ic
gifti('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/sgroup.psc.L.glm2.')
MotorR.func.gii';
which gifti
edit gifti
gifti(groupfiles{ic})
giftistruct
edit gifti
gifti(groupfiles{ic})
fnames
this
varargin{1}
help surf_smooth
sm
surf_smooth(groupfiles{ic}, 'surf', surface, 'kernel', sm)
edit surf_smooth
surf_smooth(groupfiles{ic}, 'surf', surface, 'kernel', sm)
surf_smooth(groupfiles{ic}, 'surf', surface, 'kernel', sm)
groupfiles
groupfiles{1}
groupfiles{1}='/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/group.psc.' %
L.glm2.MotorR.func.gii'
surf_smooth(groupfiles{ic}, 'surf', surface, 'kernel', sm)
con_name
sss_imana('WB:vol2surf_stats','sn',[1 2 3 5 6]);
sss_imana('ROI:getpsc','sn',[1 2 3 5 6],'glm',1)
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',6)
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',7)
sss_imana('ROI:plotSSS_avg','sn',[1 2 3 5 6],'glm',1,'ptype',8)
%% 2024-05-05 04:02:00 PM --%
edit test
edit construct_dsgmat
R = construct_dsgmat(1,1);
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
%
% addpath(genpath(workdir));
% addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
% addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
% addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
% addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
baseDir      = (sprintf('%s',workdir));    % Base directory of the project
```

```
BIDSDir      = 'BIDS';                                % Raw data post AutoBids conversion
behavDir     = 'behavDir';                            % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                  % Temporary directory for raw
functional data
imagingDir   = 'imaging_data';                        % Preprocesses functional data
anatomicalDir = 'anatomicals';                       % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir      = 'fieldmaps';                          % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir      = 'suit';
regDir       = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';    %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
% atlasDir =
%
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/dataframe']));
% % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/spm12']));
% % % % addpath(genpath(['/Volumes/Diedrichsen_data$/matlab/imaging']));
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(fullfile(workdir,'scripts'));
addpath(fullfile(workdir,behavDir));
addpath(fullfile(workdir,BIDSDir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
edit sss_imana
edit test
contrast_names = {'MotorR','MotorN','MotorR-N','CueR','CueN','CueR-  
N','BothR','BothN','BothR-N',...
'MotorOnly','CueOnly','MotorOnly-CueOnly','MotorOnly-BothN',...
'MotorR-L','MotorR-S','MotorR-L-S','CueR-L','CueR-S','CueR-L-S'}
length(contrast_names)
test
R = construct_dsgmat(1,1);
R = construct_dsgmat(1,2);
R.cond
length(unique(R.cond))
test
sss_imana
test
test
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6],'glm',1);
sss_imana('WB:vol2surf_stats','sn',[1 2 3 5 6],'glm',1);
R = construct_dsgmat(1,1);
R
test
R = construct_dsgmat(1,1);
R.isRepMotor
R.isRepMotor(1,:)
find(ans==1)
edit construct_dsgmat
R.isRepCue(1,:)
find(ans==1)
glm = 1
sss_iana('ROI:href_get','sn',1);
```

```
sss_imana('ROI:href_get','sn',1);
%-- 2024-05-13 11:07:01 AM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
%
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
test
sss_imana('PREP:step1','sn',s);
test
test
test
sss_imana('HRF:ROI_href_get','sn',1);
sss_imana('HRF:ROI_href_get','sn',1);\ 
sss_imana('HRF:ROI_href_get','sn',1);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_SSS_regions.mat')
R
R{1}
R{1}.hem
sss_imana('HRF:ROI_href_get','sn',1);
T.region
length(ans)
save(fullfile(baseDir,roiDir, sprintf('%s_hrf.mat',subj_id)), 'T');
sss_imana('HRF:ROI_href_get','sn',1,'roi',1);
sss_imana('ROI:href_plot','sn',1,'roi',1);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_hrf.mat')
R
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_hrf.mat')
T
T.T
T.T.region
sss_imana('ROI:href_plot','sn',1,'roi',1);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_hrf.mat')
T
T.regType
T.type
sss_imana('ROI:href_plot','sn',1,'roi',1);
whihch traceplot
which traceplot
edit traceplot
T.y_adj
size(T.y_adj)
load('SPM.mat')
D = spmj_get_ons_struct(SPM);
D
D.ons
68*8
D.block
```

```
size(D.block)
T
544*8
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_SSS_regions.mat')
[y_raw, y_adj, y_hat, y_res, B] = region_getts(SPM, R);
size(y_raw)
410*8
size(T.y_adj)
11*544
T.name
size(T.name)
T
T.name=='S01_EAC_L'
find(T.name=='S01_EAC_L')
length(T.name)
T.region
size(T.region)
subset = find(T.region==1)
sss_imana('ROI:href_plot','sn',1,'roi',1);
regname = {'SMA','PMv','PMd','M1','S1','SPLa','SPLp','DSVC','MT+','VSVC','EAC'}
regname = {'SMA','PMv','PMd','M1','S1','SPLa','SPLp','DSVC','MT+','VSVC','EAC'}
regname{1}
regname{1}
sss_imana('ROI:href_plot','sn',1,'roi',1);
sss_imana('ROI:href_plot','sn',1,'roi',1);
subset
size(T.y_adj)
subset
size(T.y_adj)
sss_imana('ROI:href_plot','sn',1,'roi',1);
glm=3
subj_id = 'S01';
sprintf('%s_glm%d_hrf.mat',subj_id,glm)
sss_imana('ROI:href_plot','sn',2,'roi',1);
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2);
edit region_getts
sss_imana('ROI:href_plot','sn',2,'roi',6,'glm',2);
sss_imana('ROI:href_plot','sn',1,'roi',6,'glm',2);
T.y_hat
size(T.y_hat)
size(T.y_aj)
size(T.y_adj)
M = load(fullfile(baseDir,roiDir,sprintf('%s_glm%d_hrf.mat',subj_id,glm)));
size(M.T.y_adj)
410*8
glm
5984/11
subset = [1:50];
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
T.type
size(T.type)
unique(T.type(subset))
```

```
find(T.type==1)
subset = find(T.type==1);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
figure
subset = find(T.type==3);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
subset = find(T.type==3 | T.type==5);
subset = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
figure
unique(T.type)
length(T.type)
T.type(find(T.type==4))=3;
T.type(find(T.type==6))=5;
subset = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
subset = find(T.type==3);
figure
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
T.type(find(T.type==6))=5;
```

```
sss_imana('ROI:hrf_plot','sn',1,'roi',7,'glm',2);
sss_imana('ROI:hrf_plot','sn',1,'roi',7,'glm',2);
T.type
unique(T.type(subset))
unique(T.type)
subset      = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi}, 'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
drawline(0);
roi = 4
load(fullfile(baseDir,roiDir,sprintf('%s_glm%d_hrf.mat',subj_id,glm))); % load T
T = getrow(T,T.region==roi);
pre = 10;
post = 10;
% Select a specific subset of things to plot
T.type(find(T.type==6))=5; %% BothRep
T.type(find(T.type==4))=3; %% CueOnlyRep
subset      = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi}, 'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
drawline(0);
roi = 5
load(fullfile(baseDir,roiDir,sprintf('%s_glm%d_hrf.mat',subj_id,glm))); % load T
T = getrow(T,T.region==roi);
pre = 10;
post = 10;
% Select a specific subset of things to plot
T.type(find(T.type==6))=5; %% BothRep
T.type(find(T.type==4))=3; %% CueOnlyRep
subset      = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi}, 'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
```

```

xlabel('TR');
ylabel('activation');
drawline(0);
roi = 5
load(fullfile(baseDir,roiDir,sprintf('%s_glm%d_hrf.mat',subj_id,glm))); % load T
T = getrow(T,T.region==roi);
pre = 10;
post = 10;
% Select a specific subset of things to plot
T.type(find(T.type==6))=5; %% BothRep
T.type(find(T.type==4))=3; %% CueOnlyRep
subset = find(T.type==3 | T.type==5);
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
drawline(0);
for s=[1 2 3 5 6] sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2);fprintf(
for s=[1 2 3 5 6] sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2);fprintf('Processed %d',%
s);
end
for s=[1 2 3 5 6] sss_imana('ROI:hpf_plot','sn',s,'glm',2);end
for s=[1 2 3 5 6] sss_imana('ROI:hpf_plot','sn',s,'roi',6,'glm',2);end
figure;
traceplot([-pre:post],T.y_adj,'errorfcn','stderr',...
'split',[T.type],'subset',subset,...
'leg',regname{roi},'leglocation','bestoutside'); % ,
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
drawline(0);
close all
for s=[1 2 3 5 6] sss_imana('ROI:hpf_plot','sn',s,'roi',7,'glm',2);end
close all
edit construct_dsgmat
run_list = [1 2 3 4]
for r=run_list fprintf('process%d',r);end
for r=run_list fprintf('process%d\n',r);end
pdinfo = dload('participants.tsv');
run_list = str2double(split(pdinfo.runlist{1},'.'));
pdinfo
pdinfo.runsSess1
pinfo = dload('participants.tsv');
pinfo
run_list = str2double(split(pinfo.runlist{1},'.'));
run_list

```

```
sss_imana('GLM:design','sn',7,'glm',0);
S = dload('ssh__S07.dat');
S = dload('ssh__S07.dat');
nRun = length(unique(S.BN)); % 8, 6 for S04
nTR = length(unique(S.TN)); % 68
%-- 2024-05-14 07:11:43 PM --%
S = dload('ssh__S07.dat');
S = dload('ssh__S07.dat');
S
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
%
addpath(genpath(workdir));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/cifs/diedrichsen/matlab/spm12'));
addpath(genpath('/cifs/diedrichsen/matlab/dataframe'));
addpath(genpath(['/cis/diedrichsen/matlab/imaging/surfing']));
sss_imana('GLM:design','sn',7,'glm',0);
R = construct_dsgmat(7,0);
R.isError(r,:) = S.isError(idx);
idx = find(S.BN==9)
length(idx)
S.TN
R = construct_dsgmat(7,0);
S = dload('ssh__S07.dat');
idx = find(S.BN==8)
length(ans)
idx = find(S.BN==8);
length(idx)
find(S.BN==r);
for r=1:9 L(r) = find(S.BN==r);end
for r=1:9 L(r) = length(find(S.BN==r));end
Llllllllllllllllll
L
S = dload('ssh__S07.dat');
for r=1:9 L(r) = length(find(S.BN==r));end
L
sss_imana('GLM:design','sn',7,'glm',0);
R.onset
size(R.onset)
sss_imana('GLM:design','sn',7,'glm',0);
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('SURF:freesurfer','sn',7);
%-- 2024-05-15 08:10:19 AM --%
addpath(genpath(['/srv/diedrichsen/matlab/spm12']));
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
```

```

addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw
functional data
imagingDir    = 'imaging_data';                    % Preprocesses functional data
anatomicalDir = 'anatomicals';                     % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                      % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw
functional data
imagingDir    = 'imaging_data';                    % Preprocesses functional data
anatomicalDir = 'anatomicals';                     % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                      % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));

```

```

sss_imana('WB:surf_resample','sn',7);
sss_imana('ROI:redefine','sn',7);
sss_imana('ROI:href_get','sn',7,'glm',0);
sss_imana('HRF:ROI_href_get','sn',7,'glm',0);
sss_imana('HRF:ROI_href_plot','sn',7,'roi',4,'glm',0);
sss_imana('HRF:ROI_href_get','sn',7,'glm',0);
sss_imana('HRF:ROI_href_plot','sn',7,'roi',4,'glm',0);
sss_imana('HRF:ROI_href_get','sn',7,'glm',0);sss_imana('HRF:ROI_href_plot','sn',7,'roi',4,'glm',0);
for r=1:11 sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0);end
r
for r=1:1 for subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0);end
for r=1:10 for subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0);end
for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0);end
close all
figure;
for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0);end
sss_imana('GLM:design','sn',7,'glm',2);sss_imana('GLM:estimate','sn',7,'glm',2,'fig',0);
R.cond
size(R.cond)
run_list
sss_imana('GLM:design','sn',7,'glm',2);sss_imana('GLM:estimate','sn',7,'glm',2,'fig',0);
which fit_hrf
sss_imana('HRF:ROI_href_get','sn',7,'glm',2);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',2);end
figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',2,'post',10);end
sss_imana('HRF:ROI_href_get','sn',7,'glm',2,'post',10);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',2,'post',10);end
load('SPM.mat')
open spmj_get_ons_struct
SPM
SPM.xBF
D=spmj_get_ons_struct(SPM)
D
D
D
edit construct_dsgmat
R= construct_dsgmat(1,1);
sss_imana('GLM:design','sn',7,'glm',0);
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('GLM:design','sn',7,'glm',0);
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
figure
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
close all
sss_imana('HRF:ROI_href_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_href_plot','sn',7,'roi',r,'glm',0,'post',30);end
figure

```

```

sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('GLM:design','sn',7,'glm',0);
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',0,'post',30);end
open cut
sss_imana('GLM:design','sn',7,'glm',2);sss_imana('GLM:estimate','sn',7,'glm',2,'fig',↖
0);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',30);end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',30);end
close all
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('GLM:design','sn',7,'glm',0);
sss_imana('GLM:estimate','sn',7,'glm',0,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',0,'post',30);end
sss_imana('GLM:design','sn',7,'glm',2);sss_imana('GLM:estimate','sn',7,'glm',2,'fig',↖
0);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',30);end
figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',↖
2,'post',10);end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',10);figure;for r=1:10 subplot(2,5,r);↖
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',10);end
edit proj
test
%-- 2024-05-17 03:32:38 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';              % Temporary directory for raw
functional data
imagingDir   = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                   % Preprocessed anatomicalcentr data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                     % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';

```

```
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath(fullfile(workdir,'scripts')));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2,'post',10);figure;for r=1:10 subplot(2,5,r);%
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',r,'glm',2,'post',10);end
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2,'post',10);figure;for r=1:10 subplot(2,5,r);%
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',r,'glm',2,'post',10);end
close all
s=2;sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',10);figure;for r=1:10 subplot(2,5,r);%
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',2,'post',10);end
test
sss_imana('WB:vol2surf_stats','sn',[1 2 3 5 6 7],'glm',2);
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7],'glm',2);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);figure;for r=1:10 subplot(2,5,r);%
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',30);end
figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',10);end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'pre',5,'post',10);figure;for r=1:10 subplot(2,5,r);%
sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'pre',5,'post',10);end
figure;for r=1:10 subplot(2,5,r); sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'pre',5,'post',10);end
s=7; g=3;sss_imana('GLM:design','sn',s,'glm',g);sss_imana('GLM:estimate','sn',s,'glm',g);
s=7;sss_imana('GLM:estimate','sn',s,'glm',g,'fig',0);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_2/S01/SPM.mat')
s=1
load(fullfile(baseDir, roiDir, sprintf('%s_SSS_regions.mat', sprintf('S%02d', s))));%
R
R = R([1 2 3 4 5 6 7]);
Data = region_getdata(SPM.xY.VY, R);
SPM.xY
SPM.xY.VY
SPM.xY.VY.fname
SPM.xY.VY
D
Data
figure;plot(Data{1}(:,1));
reg=[];
data=[];
for i = 1:length(Data)
reg = [reg ones(1,size(Data{i},2))*regN(i)];
data = [data Data{i}];
end
clear Data
regN = [1:7];
reg=[];
data=[];
for i = 1:length(Data)
reg = [reg ones(1,size(Data{i},2))*regN(i)];
data = [data Data{i}];
end
clear Data
```



```
wbDir = 'surfaceWB'; %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
sss_imana('HRF:ROI_hrf_get','sn'7,'glm',0,'post',30);
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
D
D.ons
D.event
D
D.ons'
D
edit spmj_get_ons_struct.m
SPM.Sess
SPM.Sess(1).ons
SPM.Sess(1).U
SPM.Sess(1).U.ons
D
D.ons
size(y_raw)
R
figure;plot(R(:,4));
figure; plot(R(:,4));
figure; plot(y_raw(:,4));
figure; plot(y_adj(:,4));
hold on;plot(y_hat(:,4),'r');
size(D.y_hat)
figure;plot(mean(D.y_hat))
hold on;plot(mean(D.y_adj),'r');
figure; plot(y_adj(:,1));
hold on;plot(y_hat(:,1),'r');
edit cut
D.block
D.y_adj
figure;plot(D.y_adj)
figure;plot(D.y_adj')
figure;plot(y_adj)
figure;plot(D.y_adj')
D.y_adj(1,:)
y_adj(1:40)
pre
size(y_raw,2)
y_adj(:,1)
figure;plot(y_adj(:,1))
D.ons
hold on;plot(D.y_adj(1,:),'r');
edit cut
T
size(y_adj)
figure;plot(y_adj(:,10))
hold on;plot(D.y_adj(1,:),'r');
```

```
D.y_adj(1,:)
temp = cut(y_adj(:,r),pre,round(D.ons(i)),post,'padding','nan')
i
D.y_aj(i,:)
D.y_adj(i,:)
temp
figure;plot(D.y_adj(i,:));hold on;plot(temp,'r')
D.ons
figure;plot(D.y_adj(i,:));
figure;plot(y_adj(:,10));hold on;plot(D.y_adj(
figure;plot(y_adj(:,10));hold on;plot(D.y_hat(:,10),'r')
figure;plot(y_adj(:,10));hold on;plot(y_hat(:,10),'r')
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r')
figure;for i=1:10 subplot(2,5,i);plot(y_adj(:,i));hold on;plot(y_hat(:,i),'r');end
figure;for i=1:10 subplot(4,3,i);plot(y_adj(:,i));hold on;plot(y_hat(:,i),'r');end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);
figure;for i=1:10 subplot(4,3,i);plot(y_adj(:,i));hold on;plot(y_hat(:,i),'r');end
figure;for i=1:10 subplot(4,3,i);plot(y_adj(1:410,i));hold on;plot(y_hat(1:410,i),'r');%
end
figure;for i=1:10 subplot(4,3,i);plot(y_adj(411:820,i));hold on;plot(y_hat(411:820,%
i),'r');end
figure;for i=1:10 subplot(4,3,i);plot(y_adj(411:820,i));hold on;plot(y_hat(411:820,%
i),'r');plot(y_raw(411:820,i),'g');end
edit region_getts
B
size(B)
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
D.ons
figure;for i=1:10 subplot(4,3,i);plot(y_adj(:,i));hold on;plot(y_hat(:,i),'r');end
figure;for i=1:10 subplot(4,3,i);plot(y_adj(:,i));hold on;plot(y_hat(:,i)+y_res(:,%
i),'r');end
figure;for r=1:10 subplot(3,4,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',%
0,'post',30);end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
figure;for r=1:10 subplot(3,4,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',%
0,'post',30);end
T = load('SPM_info.mat');
T
T.R
T.R.onset
size(D.y_adj)
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
size(D.y_adj)
figure;plot(D.y_adj')
figure;for i=1:16 subplot(4,4,i);plot(D.y_adj(:,i));end
figure;for i=1:16 subplot(4,4,i);plot(D.y_adj(i,:));end
figure;plot(mean(D.y_adj))
size(T)
T
figure;for i=1:16 subplot(4,4,i); plot(T.y_adj(i,:));end
size(T.y_adj(1:16,:))
figure;plot(mean(T.y_adj(1:16,:)))
close all
figure;for r=1:10 subplot(3,4,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',%
0,'post',30);end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
figure;for r=1:10 subplot(3,4,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',%
0,'post',30);end
T
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
```

```
T
T.type
T.region
T.ons
figure;for i=1:16 subplot(4,4,i); plot(T.y_adj(i,:));end
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r')
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r');xlim([0 385]);
SPM
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',30);
figure;for r=1:10 subplot(3,4,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',30);end
open region_getts
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R,'stats','whitemean');
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r')
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',0,'post',30);
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r')
[y_raw, y_adj2, y_hat2, y_res,B] = region_getts(SPM,R,'stats','whitemean');
hold on;plot(y_adj2(:,4),'g');
hold on;plot(y_hat2(:,4),'k');
figure;plot(y_adj2(:,4),'r');hold on;plot(y_hat2(:,4),'k');
edit fit_hrf
hrfs = getcanonicalhrflibrary(0,SPM.xBF.dt)
load('SPM.mat')
hrfs = getcanonicalhrflibrary(0,SPM.xBF.dt)
hrfs = getcanonicalhrflibrary(0,SPM.xBF.dt);
SPM.xBF
SPM.xBF.dt
1/16
SPM.xBF.bf
figure;plot(SPM.xBF.bf)
SPM.xBF
513/16
size(hrfs)
figure;plot(hrfs')
figure;plot(SPM.xBF.bf)
hold on;plot(hrfs(1,1:513),'r')
figure;plot(SPM.xBF.bf)
figure;plot(hrfs(1,1:513),'r')
figure;plot(SPM.xBF.bf)
sum(SPM.xBF.bf)
figure;plot(hrfs(1,1:513),'r')
edit hrf_fit
edit fit_hrf
edit fMRI_design_changeBF
SPM.Sess
SPM.Sess(1).U
SPM.Sess(1).U(1).name
SPM.nscan
SPM.xBF.bf
size(SPM.xBF.bf,2)
edit fMRI_design_changeBF
figure;plot(hrfs')
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[2:7]);
err_after = sum(sum(Yres.^2))/numel(Yres);
F.bf = SPM.xBF.bf';
F.err_before = err_before;
F.err_after = err_after;
err_before
err_after
SPM
```

```
SPM.xBF
SPM.xBF.bf
figure;plot(SPM.xBF.bf);
figure;plot(SPM.xBF.bf/sum(SPM.xBF.bf));
load('SPM.mat')
hold on;plot(SPM.xBF.bf/sum(SPM.xBF.bf),'r');
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[2:7]);
edit region_getts
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[2:7]);
SPMf
D = spmj_get_ons_struct(SPMf);
D
SPMf
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[2:7]);
SPM
SPM.xBF.bf
SPM.xBF
SPMf.xBF
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',20,'SPM',SPM);
figure;
for r=1:10
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',2,'post',20);
end
SPM.xBF.bf = SPMf.xBF.bf;
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',20,'SPM',SPM);
figure;
for r=1:10
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',2,'post',20);
end
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[2:7]);
size(Yhat)
5840/20
size(data)
figure;plot(data(:,1))
hold on;plot(Yhat(:,1),'r')
figure;plot(Yhat(:,4))
hold on;plot(data(:,4),'r')
figure;plot(Yhat(:,4));hold on;plot(Yhat(:,4)+Yres(:,4),'r')
figure;plot(mean(Yhat'));hold on;plot(mean(Yhat')+mean(Yres')),'r'
figure;plot(mean(Yhat'));hold on;plot(mean(Yhat')+mean(Yres')),'r'
corr(mean(Yhat'),mean(Yhat')+mean(Yres'))
corrcoef(mean(Yhat'),mean(Yhat')+mean(Yres'))
%-- 2024-05-24 11:18:17 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));      % Base directory of the project
BIDSDir     = 'BIDS';                         % Raw data post AutoBids conversion
behavDir     = 'behavDir';                     % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';           % Temporary directory for raw functional data
imagingDir   = 'imaging_data';                 % Preprocesses functional data
```

```
anatomicalDir      = 'anatomicals';                                % Preprocessed anatomicalcentr data
(LPI + center AC + segemnt)
fmapDir           = 'fieldmaps';                                    % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir           = 'suit';
regDir            = 'RegionOfInterest';
freesurferDir     = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
s=8
sss_imana('PREP:step0','sn',s);
sss_imana('PREP:step1','sn',s);
sss_imana('PREP:step2','sn',s);
s=9
sss_imana('PREP:step0','sn',s);
sss_imana('PREP:step1','sn',s);
sss_imana('PREP:step2','sn',s);
%-- 2024-05-27 11:38:04 AM --%
sss_imana('SURF:freesurfer','sn',8);
%-- 2024-05-27 11:42:50 AM --%
sss_imana('SURF:freesurfer','sn',9);
test
edit spm_defaults
test
s = 9
sss_imana('GLM:design','sn',s,'glm',0);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
test
sss_imana('SURF:freesurfer','sn',10);
test
edit test
test
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9],'glm',2);
edit test
test
edit sss_imana
edit test
sss_imana('HRF:ROI_hrf_get','sn',8,'glm',2,'post',10);
figure;for r=1:10 subplot(2,5,r);sss_imana('HRF:ROI_hrf_plot','sn',8,'glm',2,'post',10);
end
figure;for r=1:10 subplot(2,5,r);sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',r,'glm',2,'post',10);
end
figure;for r=1:10 subplot(2,5,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',10);
end
sss_imana('HRF:ROI_hrf_get','sn',7,'glm',2,'post',10);
figure;for r=1:10 subplot(2,5,r);sss_imana('HRF:ROI_hrf_plot','sn',7,'roi',r,'glm',2,'post',10);
```

```
end
test
which fit_hrf
spm_href
edit spm_hrf
spm_get_defaults('stats.fmri.t')
help fminsearch
help fmincon
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
err_after
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
err_after
SPM.xBF
SPM.xBF.bf
figure;plot(SPM.xBF.bf);hold on;plot(SPMf.xBF.bf,'r')
figure;plot(SPM.xBF.bf);
figure;plot(SPMf.xBF.bf,'r')
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
F.err_before
F.err_after
p_opt
spm_hrf(1,
p0 = [6 16 1 1 6 0 32];
spm_hrf(1,p0)
figure;plot(ans)
figure;plot(SPM.xBF.bf);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
F.err_before
F.err_after
p_opt
help fmincon
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
F.err_before
F.err_after
p_opt
figure;plot(SPM.xBF.bf);hold on;plot(SPMf.xBF.bf,'r')
figure;plot(SPMf.xBF.bf)
SPMf.xBF.bf
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
p_opt
figure;plot(SPM.xBF.bf)
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
SPM.xBF.bf = spm_hrf(SPM.xY.RT, [p_opt(1:2)' 1 1 6 0 p_opt(3)]); % replace the basis function with optimal hrf
figure;plot(SPM.xBF.bf)
cost(p0, Y, SPM)
cost(p_opt, Y, SPM)
cost([4 10 32], Y, SPM)
err_before
err_after
figure;plot(SPM.xBF.bf)
figure;plot([0:1/16:length(SPM.xBF.bf)*16-1], SPM.xBF.bf)
sss_imana('PREP:step2','sn',10);
%-- 2024-05-28 04:55:42 PM --%
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S08/SPM.mat')
figure;plot(SPM.xBF.bf);
length(SPM.xBF.bf)
figure;plot(linsSPM.xBF.bf);
```

```
help linspace
figure;plot(linspace(0,32,513),SPM.xBF.bf);
sum(SPM.xBF.bf)
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw
functional data
imagingDir    = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                    % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                      % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
figure;plot(Y)
size(Y)
figure;plot(Y(:,1))
size(Yres)
figure;plot(Y(:,1));hold on;plot(Y(:,1)-Yres(:,1),'r')
figure;for i=1:20 plot(Y(:,i));hold on;plot(Y(:,i)-Yres(:,i),'r');end
figure;for i=1:20 subplot(5,4,i);plot(Y(:,i));hold on;plot(Y(:,i)-Yres(:,i),'r');end
figure;for i=1:20 subplot(5,4,i);plot(Y(:,100*i));hold on;plot(Y(:,100*i)-Yres(:,100*i),'r');end
size(data)
figure;plot(data(:,1))
[SPMf, Yhat, Yres, p_opt] = fit_spm_hrf(SPM, data);  % 'fit',[1,2]
p_opt
[SPMf, Yhat, Yres, p_opt] = fit_spm_hrf(SPM, data);  % 'fit',[1,2]
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
[SPMf, Yhat, Yres, p_opt] = fit_spm_hrf(SPM, data);  % 'fit',[1,2]
p_opt
help fmincon
cost([4 10 32], Y, SPM)
```

```

err_before
cost([4 10 32], Y, SPM)
figure;plot([0:1/16:length(SPM.xBF.bf)*16-1],SPM.xBF.bf)
figure;plot(linspace(0,32,513),SPM.xBF.bf);
p = [4 10 32];
p_hrf = [6 16 1 1 6 0 32];
p_hrf(1:2) = p(1:2);
p_hrf(end) = p(3);
temp = spm_hrf(SPM.xY.RT, p_hrf);
hold on;plot(temp/sum(temp),'r')
size(temp)
edit spm_hrf
which spm_hrf
SPM.xY.RT
temp
sum(temp)
sss_imana('SURF:freesurfer','sn',10);
%-- 2024-05-28 05:29:08 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';              % Temporary directory for raw
functional data
imagingDir   = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                  % Preprocessed anatomical centr
(LPI + center AC + segemnt)
fmapDir      = 'fieldmaps';                     % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir      = 'suit';
regDir       = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spml2'));
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S07/SPM.mat')
SPM
SPM.xBF
edit spm_rwls_run_fmri_spec
edit spm_rwls_fmri_spm_ui
edit spm_fMRI_design

```

```
edit spm_get_bf
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
SPM.xx
SPM.xx.X(:,1)
figure;plot(SPM.xx.X(:,1))
p_opt
err_before
figure;plot(SPM.xx.X(:,1));hold on;plot(SPMf.xx.X(:,1),'r');
figure;plot(SPMf.xBF.bf);hold on;
figure;plot(SPMf.xBF.bf);hold on;
hrfs = getcanonicalhrflibrary(0,SPM.xBF.dt);
size(hrfs)
SPM.xBF.dt
edit spm_hrf
spm_get_defaults('stats.fmri.t')
16*32
edit spm_hrf
spm_get_defaults('stats.fmri.hrf')
hrf = spm_hrf(1,ans,1/16)
p=spm_get_defaults('stats.fmri.hrf')
hrf = spm_hrf(1,p,16)
hrf = spm_hrf(1,p);
which spm_hrf
p
p(7)
hrf = spm_hrf(1,p);
temp = spm_Gpdf(u,p(1)/p(3),dt/p(3)) - spm_Gpdf(u,p(2)/p(4),dt/p(4))/p(5);
figure;plot(temp)
figure;plot(hrf([0:floor(p(7)/RT)]*fMRI_T + 1))
figure;plot(temp([0:floor(p(7)/RT)]*fMRI_T + 1))
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
figure;plot(linspace(0,32,513),SPM.xBF.bf);
size(SPM.xBF.bf)
size(SPM.xx.X)
[hrf,p]=spm_hrf(1,[],16);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
p_opt
SPM.xBF.bf
figure;plot(SPM.xx.X(:,1))
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
err_after
edit region_getts
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
%-- 2024-05-28 09:11:19 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir     = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                      % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';            % Temporary directory for raw
```

```
functional data
imagingDir      = 'imaging_data';                      % Preprocesses functional data
anatomicalDir   = 'anatomicals';                        % Preprocessed anatomical centr data ↵
(LPI + center AC + segemnt)
fmapDir         = 'fieldmaps';                         % Fieldmap dir after moving from BIDS ↵
and SPM make fieldmap
suitDir         = 'suit';
regDir          = 'RegionOfInterest';
freesurferDir   = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
edit fit_spm_hrf
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
err_after
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
err_before
err_after
p_opt
p
p_opt
p = [4 10];
p = [4 10 32];
err = cost(p, Y, SPM)
err_before
err_after
err = cost(p, data, SPM)
Y = spm_filter(SPM.xX.K,SPM.xX.W*Yraw);
Y = spm_filter(SPM.xX.K,SPM.xX.W*data);
err = cost(p, Y, SPM)
Y = spm_filter(SPM.xX.K, SPM.xX.W*data); % filter out low-frequence trends in Y
SPM.xY.RT
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
p_opt
err_before
err_after
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
help fmincon
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[2]);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[2]);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[4:6]);
close all
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[4:7]);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[4:6]);
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[1:7]);
close all
g=2
close all
g=2
```

```
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20,'bf',SPMf.xBF.bf);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
sss_imana('HRF:fit','sn',8,'glm',0,'regN',[3:7]);
close all
sss_imana('HRF:fit','sn',9,'glm',0,'regN',[3:7]);
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[3:7]);
g=2
s
close all
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20,'bf',SPMf.xBF.bf);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
s=7;sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[3:7]);
g=2
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',g,'post',20,'bf',SPMf.xBF.bf);
figure;
for r=1:8
subplot(2,4,r);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',r,'glm',g,'post',20);
end
SPM.bases
SPM.xBF
SPM.xx
figure;plot(SPM.xx.X(:,1));
SPMf
SPMf.xBF
SPM.xBF.bf
SPM.xBF
SPMf.xBF
test
%-- 2024-05-29 01:18:37 PM --%
test
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
```

```

atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw↖
functional data
imagingDir    = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                    % Preprocessed anatomical centr data↖
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                     % Fieldmap dir after moving from BIDS↖
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spml2'));
test
sss_imana('GLM:design','sn',s,'glm',g);
s
0
g
sss_imana('GLM:design','sn',10,'glm',0);
edit sss_imana
sss_imana('GLM:design','sn',10,'glm',0);
test
%-- 2024-05-29 03:23:15 PM --%
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S07/SPM.mat')
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw↖

```

```

functional data
imagingDir      = 'imaging_data';                                % Preprocesses functional data
anatomicalDir   = 'anatomicals';                                 % Preprocessed anatomical data ↵
(LPI + center AC + segemnt)
fmapDir         = 'fieldmaps';                                  % Fieldmap dir after moving from BIDS ↵
and SPM make fieldmap
suitDir         = 'suit';
regDir          = 'RegionOfInterest';
freesurferDir   = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('PREP:step0','sn',11);
sss_imana('PREP:step1','sn',11);
sss_imana('PREP:step2','sn',11);sss_imana('SURF:freesurfer','sn',11);
test
sss_imana('GLM:psc','sn',s,'glm',g);
sss_imana('WB:surf_resample','sn',s);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',g,'map','psc');
sss_imana('WB:vol2surf_stats','sn',s,'glm',g);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',g,'map','psc');
%-- 2024-06-05 10:36:20 PM --%
edit spm_get_bf
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir        = (sprintf('%s/',workdir));      % Base directory of the project
BIDSDir       = 'BIDS';                         % Raw data post AutoBids conversion
behavDir       = 'behavDir';                     % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';             % Temporary directory for raw ↵
functional data
imagingDir      = 'imaging_data';                % Preprocesses functional data
anatomicalDir   = 'anatomicals';                 % Preprocessed anatomical data ↵
(LPI + center AC + segemnt)
fmapDir         = 'fieldmaps';                  % Fieldmap dir after moving from BIDS ↵
and SPM make fieldmap
suitDir         = 'suit';
regDir          = 'RegionOfInterest';
freesurferDir   = 'freesurf';
wbDir = 'surfaceWB';  %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');

```

```
%  
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));  
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));  
addpath(genpath(fullfile(workdir,behavDir)));  
addpath(genpath(fullfile(workdir,BIDSDir)));  
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));  
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));  
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));  
addpath(genpath('/srv/diedrichsen/matlab/spm12'));  
edit spm_get_bf  
edit fit_spm_hrf  
edit spm_hrf  
[hrf, p] = spm_hrf(1/16, [], 16);  
size(hrf)  
sum(hrf)  
sss_imana('HRF:fit','sn',7,'glm',0,'regN',[1:7]);  
SPM.xBF.params  
edit cost  
p0 = spm_get_defaults('stats.fmri.hrf');  
p0  
cost(p0, data, SPM)  
edit fit_spm_hrf  
[SPMf, Yhat, Yres, p_opt] = fit_spm_hrf(SPM, data);  
p0 = spm_get_defaults('stats.fmri.hrf');  
close all  
edit test  
s=10;  
g=0  
sss_imana('GLM:design','sn',s,'glm',g);  
sss_imana('GLM:estimate','sn',s,'glm',g,'fig',0);  
sss_imana('GLM:psc','sn',s,'glm',g);  
sss_imana('WB:surf_resample','sn',s);  
sss_imana('WB:vol2surf_indiv','sn',s,'glm',g,'map','psc');  
sss_imana('WB:vol2surf_stats','sn',s,'glm',g);  
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S10/SPM.mat')  
SPM.xBF  
SPM.xBF.bf  
figure;plot(SPM.xBF.bf);  
hrf = spm_hrf(1/16, [], 16);  
figure;plot(SPM.xBF.bf);hold on;plot(hrf,'r')  
100/16  
figure;plot(SPM.xBF.bf);hold on;plot(hrf,'r')  
sss_imana('WB:surf_resample','sn',s);  
sss_imana('WB:vol2surf_indiv','sn',s,'glm',g,'map','psc');  
s  
sn  
G = surf_vol2surf(C1.vertices, C2.vertices, fnames, 'column_names', con_name,  
'anatomicalStruct', hem{h}, 'exclude_thres', 0.75, 'faces', C1.faces, 'ignore_zeros',  
0);  
C1  
C2  
fname  
fnames  
edit test  
sss_imana('ROI:redefine','sn',s);  
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',0,'post',20);  
p0  
p0 = spm_get_defaults('stats.fmri.hrf');  
p0  
edit test
```

```
edit fit_spm_hrf
test
edit test
test
sss_imana('ROI:redefine','sn',11);
edit test
s
sss_imana('HRF:fit','sn',s);
close all
sss_imana('GLM:design','sn',11,'glm',2);sss_imana('GLM:estimate','sn',s,'glm',2,'fig',\
0);sss_imana('GLM:psc','sn',11,'glm',2);sss_imana('WB:vol2surf_indiv','sn',11,'glm',\
2,'map','psc');sss_imana('WB:vol2surf_stats','sn',11,'glm',2);sss_imana('WB:\
vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
edit spm_defaults.m
sss_imana('GLM:design','sn',11,'glm',2);sss_imana('GLM:estimate','sn',s,'glm',2,'fig',\
0);sss_imana('GLM:psc','sn',11,'glm',2);sss_imana('WB:vol2surf_indiv','sn',11,'glm',\
2,'map','psc');sss_imana('WB:vol2surf_stats','sn',11,'glm',2);sss_imana('WB:\
vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
edit spm_defaults.m
sss_imana('GLM:design','sn',11,'glm',2);sss_imana('GLM:estimate','sn',s,'glm',2,'fig',\
0);sss_imana('GLM:psc','sn',11,'glm',2);sss_imana('WB:vol2surf_indiv','sn',11,'glm',\
2,'map','psc');sss_imana('WB:vol2surf_stats','sn',11,'glm',2);sss_imana('WB:\
vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
%-- 2024-06-06 12:39:22 AM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw
functional data
imagingDir    = 'imaging_data';                   % Preprocesses functional data
anatomicalDir = 'anatomicals';                    % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                      % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
%
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
```

```

addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('GLM:design','sn',11,'glm',2);sss_imana('GLM:estimate','sn',s,'glm',2,'fig',↖
0);sss_imana('GLM:psc','sn',11,'glm',2);sss_imana('WB:vol2surf_indiv','sn',11,'glm',↖
2,'map','psc');sss_imana('WB:vol2surf_stats','sn',11,'glm',2);sss_imana('WB:↖
vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
sss_imana('GLM:design','sn',11,'glm',2);sss_imana('GLM:estimate','sn',11,'glm',2,'fig',↖
0);sss_imana('GLM:psc','sn',11,'glm',2);sss_imana('WB:vol2surf_indiv','sn',11,'glm',↖
2,'map','psc');sss_imana('WB:vol2surf_stats','sn',11,'glm',2);sss_imana('WB:↖
vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
sss_imana('WB:vol2surf_indiv','sn',11,'glm',2,'map','psc');sss_imana('WB:↖
vol2surf_stats','sn',11,'glm',2);sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9 10↖
11],'glm',2);
fnames
map
SPM.xCon
edit test
sss_imana('GLM:tcontrast','sn',11,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',11,'glm',2,'map','psc');sss_imana('WB:↖
vol2surf_stats','sn',11,'glm',2);sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9 10↖
11],'glm',2);
s
s = 11
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',11,'glm',2,'map','psc');sss_imana('WB:↖
vol2surf_stats','sn',11,'glm',2);sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9 10↖
11],'glm',2);
test
edit fit_spm_hrf
edit fMRI_design_changeBF.m
edit fit_spm_hrf
edit sss_imana
sss_imana('HRF:fit','sn',7);
which fit_spm_hrf
sss_imana('HRF:fit','sn',7);
sss_imana('HRF:fit','sn',7,'regN',[4 5]);
help fmincon
sss_imana('HRF:fit','sn',7,'regN',[1:7]);
sss_imana('HRF:fit','sn',7,'regN',[4:7]);
sss_imana('HRF:fit','sn',8,'regN',[1:7]);
sss_imana('HRF:fit','sn',9,'regN',[1:7]);
sss_imana('HRF:fit','sn',10,'regN',[1:7]);
sss_imana('HRF:fit','sn',11,'regN',[1:7]);
test
edit spmj_fit_hrf.m
which spmj_fit_hrf
sss_imana('HRF:fit_hrf','sn',7,'regN',[4 5]);
sss_imana('HRF:fit','sn',7,'regN',[4 5]);
close all
sss_imana('HRF:fit','sn',7,'regN',[4 5]);
close all
sss_imana('HRF:fit','sn',8,'regN',[4 5]);
sss_imana('HRF:fit','sn',9,'regN',[4 5]);
sss_imana('HRF:fit','sn',10,'regN',[4 5]);
sss_imana('HRF:fit','sn',11,'regN',[4 5]);
sss_imana('HRF:fit','sn',11,'regN',[2]);
%-- 2024-06-07 10:00:00 PM --%
if ismac
workdir='/Volumes/Diedrichsen_data$/data/SeqSpatialSupp_fMRI';
atlasDir = '/Volumes/Diedrichsen_data$/data/Atlas_templates';
% After mounting the diedrichsen datashare on the CBS server.

```

```
elseif isunix
workdir='/srv/diedrichsen/data/SeqSpatialSupp_fMRI';
atlasDir = '/srv/diedrichsen/data/Atlas_templates';
standardmeshDir = '/home/ROBARTS/skim2764/imaging_tools/surfAnalysis/standard_mesh';
else
fprintf('Workdir not found. Mount or connect to server and try again.');
end
baseDir      = (sprintf('%s/',workdir));           % Base directory of the project
BIDSDir      = 'BIDS';                            % Raw data post AutoBids conversion
behavDir     = 'behavDir';                         % Timing data from the scanner
imagingRawDir = 'imaging_data_raw';                % Temporary directory for raw functional data
imagingDir    = 'imaging_data';                    % Preprocesses functional data
anatomicalDir = 'anatomicals';                     % Preprocessed anatomical data
(LPI + center AC + segemnt)
fmapDir       = 'fieldmaps';                      % Fieldmap dir after moving from BIDS
and SPM make fieldmap
suitDir       = 'suit';
regDir        = 'RegionOfInterest';
freesurferDir = 'freesurf';
wbDir = 'surfaceWB';   %% standard surface?
glmDir = '/glm_%d';
roiDir = 'ROI';
pathToSave = fullfile(baseDir,'Figures');
addpath(genpath(['/srv/diedrichsen/matlab/dataframe']));
addpath(genpath('/home/ROBARTS/skim2764/Documents/MATLAB/scripts'));
addpath(genpath(fullfile(workdir,behavDir)));
addpath(genpath(fullfile(workdir,BIDSDir)));
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/surfing'));
addpath(genpath('/srv/diedrichsen/matlab/imaging/freesurfer'));
addpath(genpath('/srv/diedrichsen/matlab/spm12'));
sss_imana('PREP:step0','sn',12);
sss_imana('PREP:step1','sn',12);
sss_imana('PREP:step2','sn',12);sss_imana('SURF:freesurfer','sn',12);
test
s
sss_imana('GLM:design','sn',s,'glm',0);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('ROI:redefine','sn',s);
which surf_smooth
which rsa.spm.noiseNormalizeBeta
load('optC.mat')
addpath(genpath('/home/ROBARTS/skim2764/imaging_tools'));
which rsa.spm.noiseNormalizeBeta
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S01/SPM.mat')
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_SSS_regions.mat')
Data = region_getdata(SPM.xY.VY, R);
[B, ~, Sw] = rsa.spm.noiseNormalizeBeta(Data, SPM);
size(Data)
size(Data)
data = Data{1};
data
size(data)
size(data)
410*8
[B, ~, Sw] = rsa.spm.noiseNormalizeBeta(data, SPM);
size(B)
B(1,1:100)
size(Sw)
```

```
edit rsa.spm.noiseNormalizeBeta
[B, ~, Sw] = rsa.spm.noiseNormalizeBeta(data, SPM,'normmode','runwise');
Opt
edit rsa.stat.covdiag
[B, ~, Sw] = rsa.spm.noiseNormalizeBeta(data, SPM,'normmode','runwise');
glm=3
roi=[1:3]
data = region_getdata(SPM.xY.VY,R{roi});
data = region_getdata(SPM.xY.VY,R);
roi = [1:2]
data = region_getdata(SPM.xY.VY,R(roi));
data
data{1}
size(data{1})
[B, ~, Sw] = rsa.spm.noiseNormalizeBeta(data{1}, SPM,'normmode','runwise');
size(B)
tem = {B(1:30)};
tem
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S01/SPM_info.mat')
R
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_SSS_regions.mat');
R
regInt = [1:72];regInt([9:9:72]) = [];
regInt
regNInt = [9:9:72];
regInt = [1:72];regInt(regNInt) = [];
regInt
R{1}
sss_imana('ROI_get_prewhitened_beta','sn',1);
sss_imana('ROI_get_prewhitened_beta','sn',1);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_ROI_pwhBeta.glm3.mat')
Data
Data.name
s = 14
sss_imana('BIDS:move_unzip_raw_func','sn',s);
sss_imana('BIDS:move_unzip_raw_fmap','sn',s);
sss_imana('BIDS:move_unzip_raw_func','sn',s);
edit sss_imana
sss_imana('BIDS:move_unzip_raw_func','sn',s);
func_raw_path = fullfile(baseDir,BIDSDir,sprintf('sub-%s',pinfo.subj_id(pinfo.\
sn==sn)), 'func', FuncRawName_tmp);
func_raw_path = fullfile(baseDir,BIDSDir,sprintf('sub-%s',pinfo.subj_id(pinfo.\
sn==sn)), 'func', FuncRawName_tmp);
sprintf('sub-%s',pinfo.subj_id(pinfo.sn==sn))
pinfo.sn
pinfo.subj_id
pinfo.subj_id{pinfo.sn==14}
pinfo.subj_id{pinfo.sn==14}
pinfo.sn==14
pinfo.subj_id{pinfo.sn==14}
FuncRawName_tmp = replace(FuncRawName_tmp,'XX',sprintf('.%02d',pinfo.subj_id{pinfo.\
sn==sn}));
func_raw_path = fullfile(baseDir,BIDSDir,sprintf('sub-%s',), 'func', FuncRawName_tmp);
pinfo.subj_id(pinfo.sn==14)
sss_imana('BIDS:move_unzip_raw_func','sn',s);
sss_imana('BIDS:move_unzip_raw_fmap','sn',s);
sss_imana('FUNC:make_fmap','sn',s);
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0)
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
```

```
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:coreg','sn',s,'sn2',1);sss_imana('FUNC:make_samealign','sn',s);%
sss_imana('FUNC:make_maskImage',sn,s);
sss_imana('FUNC:coreg','sn',s,'sn2',1);sss_imana('FUNC:make_samealign','sn',s);%
sss_imana('FUNC:make_maskImage','sn',s);
which preproc_2nd
preproc_2nd
edit preproc_2nd
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:coreg','sn',s,'sn2',s-13);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_samealign','sn',s);
%-- 2024-06-17 10:14:13 AM --%
s=15
s > 13 & s < 19
s=30
s=2-
s=20
s > 13 & s < 19
test
sss_add_path
%-- 2024-06-17 12:10:15 PM --%
sss_add_path
R = construct_dsgmat(13, 1)
R = construct_dsgmat(12, 1)
R = construct_dsgmat(12, 0)
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S07/SPM.mat')
SPM
SPM.Session
SPM.Sess
SPM.Sess.U
SPM.Sess.U.ons
edit constrct_dsg_mat
edit construct_dsgmat.m
sid = 'R01';
S = dload(fullfile(workdir,behavDir,sprintf('sub-%s/ssh__%s.dat',sid,sid)));
S = dload(fullfile(workdir,behavDir,sprintf('sub-%s/ssh__%s.dat',sid,sid)));
S = dload(fullfile(workdir,behavDir,sprintf('sub-%s/ssh__%s.dat',sid,sid)));
sid = 'S01'
S = dload(fullfile(workdir,behavDir,sprintf('sub-%s/ssh__%s.dat',sid,sid)));
S
R = construct_dsgmat('S01',1);
S.BN
S
fullfile(workdir,behavDir,sprintf('sub-S%.2d/ssh__S%.2d.dat',s,s))
S
fullfile(workdir,behavDir,sprintf('sub-S%.2d/ssh__S%.2d.dat',1,1))
R = construct_dsgmat(1,1);
R
sn = 1
glm = 1
R1 = construct_dsgmat(sprintf('S%02d',sn,glm));
R2 = construct_dsgmat(sprintf('R%02d',sn,glm));
R = combine_behavdata(R1,R2);
which construct_dsgmat
sn
R1 = construct_dsgmat(sprintf('S%02d','S01',glm));
R1 = construct_dsgmat(sprintf('S%02d',sn,glm));
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
```

```
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
R
sss_imana('GLM:design','sn',1,'glm',0);
R1
R2
glm
R1
R2
R.con
R1.con
R1.cond
R.onset
R1.onset
R2.onset
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R1
glm = 0
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R1
isempty(R1.onset)
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R2
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
R
R.cond
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R1 = construct_dsgmat(sprintf('S%02d',sn),1);
R1.cond
size(R1.cond)
R1
sss_imana('GLM:design','sn',1,'glm',0);
open spmj_realign_unwarp
pinfo = dload('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/participants.tsv');
run_list_cell = cellfun(@(x) sprintf('.%02d',str2double(x)), split(pinfo.runlist'',...
{sn}, '.'), 'UniformOutput', false);
run_list_cell
run_list_cell = cellfun(@(x) sprintf('.%02d',str2double(x))+8, split(pinfo.runlist'',...
{sn}, '.'), 'UniformOutput', false);
run_list_cell
run_list_cell{1}
run_list_cell = cellfun(@(x) sprintf('.%02d',str2double(x)+8), split(pinfo.runlist'',...
{sn}, '.'), 'UniformOutput', false);
run_list_cell
edit spmj_realign_unwarp
which movefile
help movefile
sn=2
dst_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf(
('S%02d',sn));
dst_dir
s=14
s=15
sn = 2
src_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf(
('R%02d',sn));
dst_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf(
('S%02d',sn));
```

```
% Form the shell command
system(sprintf('mv "%s"/* "%s"', src_dir, dst_dir));
s
s=14
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
s
s=1
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:make_fmap','sn',sn);
sss_imana('FUNC:make_fmap','sn',1);
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
%-- 2024-06-18 11:10:35 AM --%
edit change_filenames
change_filenames(14)
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
change_filenames(14)
which change_filenames
change_filenames(14)
folder
dir(folder)
folder = fullfile('/srv/diedrichsen_data/data/SeqSpatialSupp_fMRI/imaging_data_raw', sprintf('S%02d',sn));
dir(folder)
folder = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw', sprintf('S%02d',sn));
dir(folder)
change_filenames(14)
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_ROI_pwhBeta.glm3.mat')
Data
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S07/SPM.mat')
SPM.Sess(1)
SPM.Sess(1).row
SPM.Sess(2).row
SPM.Sess(2).col
SPM
SPM.xx.X
size(SPM.xx.X)
condvec = [repmat([1:8 0],1,8) zeros(1,8)]
condvec
SPM.xBF
SPM.xBF.params
edit spmj_fit_hrfparams
sss_add_path
s=1;sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S01/SPM.mat')
sss_imana('ROI_calc_rdm','sn',1);
which rsa.spm.distanceLDDraw
sss_imana('ROI_calc_rdm','sn',1);
which rsa.stats.covdiag
which rsa.stat.covdiag
sss_imana('ROI_calc_rdm','sn',1);
condvec = [repmat([1:8 0],1,16) zeros(1,16)];
size(condvec)
sss_imana('ROI_calc_rdm','sn',1);
```

```
length(nonInterest(partN==partN(1))),numVox,numPart)
length(nonInterest(partN==partN(1))),numVox,numPart
zeros(length(nonInterest(partN==partN(1))),numVox,numPart)
partN
size(partN)
partN(1)
partN
nonInterest
length(nonInterest(partN==partN(1)))
nonInterest(partN==partN(1))
conditionVec
size(SPM.xx.X)
figure;imagesc(SPM.xx.X)
preproc_2nd
s
change_filenames(s);
src_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('R%02d',sn));
dst_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('S%02d',sn));
% Form the shell command
system(sprintf('mv %s/* %s', src_dir, dst_dir));
sss_imana('FUNC:make_fmap','sn',s);
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
change_filenames(s);
directory
cd(directory)
change_filenames(s);
src_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('R%02d',sn));
dst_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('S%02d',sn));
% Form the shell command
system(sprintf('mv %s/* %s', src_dir, dst_dir));
sss_imana('FUNC:make_fmap','sn',s);
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
src_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('R%02d',s));
dst_dir = fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/imaging_data_raw',sprintf('S%02d',s));
% Form the shell command
system(sprintf('mv %s/* %s', src_dir, dst_dir));
sss_imana('FUNC:make_fmap','sn',s);
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
sss_imana('FUNC:coreg','sn',s,'sn2',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
s=2
sss_imana('GLM:design','sn',s,'glm',0);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('HRF:fit','sn',s,'regN',[1:7]);
size(SPM.xx.X)
figure;plot(SPM.xx.X(:,1))
figure;plot(SPM.xx.X(:,1))
```

```
sss_imana('GLM:design','sn',s,'glm',0,'hrf_params',[5.43 9.37]);
hold on;plot(SPM.xx.X(:,1),'r')
figure;plot(SPM_org.xx.X(:,1))
SPM_org
clear SPM
load SPM_org
figure;plot(SPM.xx.X(:,1))
clear SPM
load SPM
hold on;plot(SPM.xx.X(:,1),'r')
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S01_hrf_fit_glm0.mat')
F
sss_imana('HRF:fit','sn',s,'regN',[4:5]);
sss_imana('GLM:design','sn',s,'glm',0,'hrf_params',[5.43 9.37]);
J.base
J.bases
J.bases.hrf
SPM.xBF
SPM
SPM.xx
SPM.xBF
figure;plot([1/16:1/16:513/16],SPM.xBF.bf)
SPM.xBF.params
edit spm_get_bf
sss_imana('GLM:design','sn',s,'glm',0,'hrf_params',[13 20]);
xBF.name
xBF
figure;plot([1/16:1/16:513/16],bf)
sss_imana('GLM:design','sn',s,'glm',0,'hrf_params',[13 20]);
hrf_params
xBF.params
figure;plot([1/16:1/16:513/16],bf)
load('SPM.mat')
figure;plot(SPM.xx.X(:,1))
load('SPM_org.mat')
hold on;plot(SPM.xx.X(:,1),'r')
figure;plot([1/16:1/16:513/16],SPM.xBF.bf)
load('SPM.mat')
hold on;plot([1/16:1/16:513/16],SPM.xBF.bf,'r')
close all
sss_imana('HRF:fit','sn',s,'regN',[4:5]);
sss_imana('GLM:design','sn',1,'glm',3,'hrf_params',[7.24 25.61]);
figure;plot([1/16:1/16:513/16],SPM.xBF.bf)
load('SPM_new'.mat')
figure;plot([1/16:1/16:513/16],SPM.xBF.bf)
SPM.xBF.params
sss_imana('GLM:estimate','sn',1,'glm',3,'fig',0);
sss_imana('GLM:estimate','sn',1,'glm',3,'fig',0);preproc_2nd;
edit test
s=2
load(fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI',sprintf('S%2d_hrf_fit_glm0.mat',s)));
sss_imana('GLM:design','sn',s,'glm',3,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
sss_imana('ROI_get_prewhitenet_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
test
%-- 2024-06-20 10:26:56 AM --%
sss_add_path
load('S02_ROI_pwhBeta.glm3.mat')
```

```
Data
load('S03_RDM.glm3.mat')
Data
Data.RDM{1}
for i=1:3 load('S%02d_RDM.glm3.mat',i);for r=1:7 mDiss(i,r) = mean(Data.RDM{r});end;end
for i=1:3 load(sprintf('S%02d_RDM.glm3.mat',i));for r=1:7 mDiss(i,r) = mean(Data.RDM{r});end;end
mDiss
Data.name
mDiss
mean(mDiss)
mDiss
edit rsa.distanceLDC
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S05/SPM.mat')
SPM.xBF.params
numCond = 8
indicatorMatrix('allpairs',[1:numCond])
size(ans)
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S05/SPM_info.mat')
R
edit construct_dsgmat
edit anal_rdm
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
mDissFing
help fprintf
anal_rdm
mDissCue
Data.RDM
Data.RDM{1}
Data.RDM{10}
Data.RDM{9}
anal_rdm
mDissFing
Data.RDM{9}
mDiss
mean(mDiss)
mean(Data.RDM{r}(diffingIdx))-mean(Data.RDM{r}(diffingIdx))
clear
anal_rdm
mDiss
mDissCue
mean(mDissCue)
Data.name
anal_rdm
mDiss
mean(mDiss)
mean(mDissFing)
mean(mDissCue)
anal_rdm
mDissSeq
mean(mDissSeq)
sameseqIdx = [1 14 23 28];
diffseqIdx = [2:13 15:22 24:27];
size(sameseqIx)
size(sameseqIdx)
size(diffseqIdx)
anal_rdm
```

```
mean(mDissSeq)
mean(mDiss)
anal_rdm
mean(mDissSeqCue)
mDissSeqCue
anal_rdm
mean(mDissSeqCue)
Data.name
anal_rdm
mDissCue_wSeq
mean(mDissCue_wSeq)
mean(mDissSeq_wCue)
figure;plot(mean(mDissSeq_wCue))
figure;plot(mean(mDissFing))
anal_rdm
mDissFing_wCue
anal_rdm
mean(mDissFing_wCue)
figure;plot(ans)
figure;bar(mean(mDissFing_wCue))
figure;bar(mean(mDissFing))
figure;barplot(mean(mDissFing))
help bar
Data.name
anal_rdm
close all
anal_rdm
help bar
title('Mean neural dissimilarity of motor sequences within the same cue', 'FontSize', 16);
bo off
box off
xlabel('Regions of Interest', 'FontSize', 14);
ylabel('Mean dissimilarity (a.u.)', 'FontSize', 14);
title('Mean neural dissimilarity of motor sequences within the same cue', 'FontSize', 20);
ylabel('Mean dissimilarity (a.u.)', 'FontSize', 14);
title('Mean neural dissimilarity of motor sequences within the same cue', 'FontSize', 18);
title('Motor sequences within the same cue', 'FontSize', 18);
anal_rdm
sss_imana('GLM:design','sn',s,'glm',3,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
sss_imana('ROI_get_prewhitened_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
s=11
sss_imana('GLM:design','sn',s,'glm',3,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
sss_imana('ROI_get_prewhitened_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
load(fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI', sprintf('S%02d_hrf_fit_glm0.mat', s)));
params_after
sss_imana('GLM:design','sn',s,'glm',3,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
sss_imana('ROI_get_prewhitened_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
%-- 2024-06-21 10:44:32 AM --%
test
sss_add_path
```

```
test
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
mean_data
data
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S11_RDM.glm3.mat')
Data
Data.RDM
Data.RDM{1}
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S11_ROI_pwhBeta.glm3.mat')
Data
Data.beta{1}
preproc_2nd
s=111111113
s=13333333333333
s=13
preproc_2nd;test
test
sss_imana('WB:surf_resample','sn',13);
sss_imana('ROI:findall','sn',13);
sss_imana('ROI:redefine','sn',13);
test
subjlist
anal_rdm
data
anal_rdm
data
mean(data)
mean_data
sem_data
figure;
bar(mean_data);
hold on;
% Add error bars
errorbar(mean_data, sem_data, 'k', 'linestyle', 'none');
set(gca, 'XTick', 1:9, 'XTickLabel', labels);
xlabel('Regions of Interest','FontSize',14);
ylabel('Mean dissimilarity (a.u.)','FontSize',14);
title('Motor sequences within the same cue','FontSize',18);
% title('First finger within the same cue','FontSize',18);
title('Cue with same motor sequence','FontSize',18);
hold off;
box off;
edit anal_rdm
anal_rdm
%-- 2024-06-24 03:48:32 PM --%
sss_add_path;
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path;
sss_imana('HRF:fit','sn',11);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S11_ROI_pwhBeta.glm3.mat')
Data
Data.beta{1}.shape
size(Data.beta{1})
Data.beta{1}(1,:)
sss_imana('ROI_get_prewhitened_beta','sn',11);
size(data{1})
figure;plot(data{1}(:,1))
figure;plot(data{1}(:,100))
```

```
length(isnan(data{1}))
sum(isnan(data{1}))
sum(sum(isnan(data{1})))
sum(sum(isnan(data{2})))
size(B)
B(:,1)
B
edit rsa.spm.noiseNormalizeBeta
[B,~,Sw] = rsa.spm.noiseNormalizeBeta(data{r},SPM);
beta_hat
size(beta_hat)
find(sum(beta_hat)==0)
size(res)
edit rsa.spm.noiseNormalizeBeta
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S11_ROI_pwhBeta.glm3.mat')
Data
Data.beta{1}
Data.beta{2}
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S11_RDM.glm3.mat')
Data
Data.RDM{2}
Data.RDM{1}
Data.RDM{2}
Data.RDM{3}
Data.RDM{4}
Data.RDM{5}
Data.RDM{6}
sss_imana('ROI_get_prewhitened_beta','sn',1);;
figure;plot(data{1}(:,1))
preproc_2nd
sss_imana('FUNC:coreg','sn',s,'sn2',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
s
preproc_2nd
s
sss_imana('FUNC:coreg','sn',s,'sn2',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
test
load('S11_RDM.glm3.mat')
Data
Data.RDM{1}
Data.RDM{2}
load('S08_ROI_pwhBeta.glm3.mat')
load('S11_ROI_pwhBeta.glm3.mat')
Data
Data.beta{1}
Data.beta{2}
size(Data.beta{2})
Data.beta{1}(:,1)
Data.beta{1}(:,2)'
Data.beta{1}(:,3)'
mean(Data.beta{1})
mean(Data.beta{1}|)
nanmean(Data.beta{1}|)
mean(Data.beta{2}|)
mean(Data.beta{3}|)
load('S08_ROI_pwhBeta.glm3.mat')
mean(Data.beta{3}|)
```

```
anal_rdm
%-- 2024-06-26 01:14:58 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
close all
anal_rdm
s=11
sss_imana('GLM:design','sn',s,'glm',0);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('HRF:fit','sn',s,'regN',[1:7]);
Data
mean(Data{1})
length(fin(mean(Data{1}))==0)
length(find(mean(Data{1}))==0)
length(find(mean(Data{2}))==0))
length(find(mean(Data{3}))==0))
size(mean(Data{1}))
size(Data{{1}})
size(Data{{1}})
size(Data{{1}})
size(Data{{1}})
size(Data{{1}})
figure;plot(Data{2}(:,10))
length(find(mean(Data{4}))==0))
length(find(mean(Data{5}))==0))
length(find(Data{5}==0))
for i=1:7 L(i) = length(find(Data{i}==0));end
L
L(1)/385
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S11/SPM.mat')
data = region_getdata(SPM.xY.VY,R);
load(fullfile(baseDir, roiDir, sprintf('%s_SSS_regions.mat', sprintf('S%02d', s)))); %\n
Load R
data = region_getdata(SPM.xY.VY,r);
load(fullfile(baseDir, roiDir, sprintf('%s_SSS_regions.mat', sprintf('S%02d', s)))); %\n
Load R
data = region_getdata(SPM.xY.VY,R);
size(data)
figure;plot(data{1})
size(data{1})
size(data{1})
figure;plot(data{1}(:,1))
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S01/SPM.mat')
load(fullfile(baseDir, roiDir, sprintf('%s_SSS_regions.mat', sprintf('S%02d', 1)))); %\n
Load R
data = region_getdata(SPM.xY.VY,R);
figure;plot(data{1}(:,1))
size(data{1})
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_3/S02/SPM.mat')
load(fullfile(baseDir, roiDir, sprintf('%s_SSS_regions.mat', sprintf('S%02d', 2)))); %\n
Load R
figure;plot(data{1}(:,1))
SPM.xY.VY
SPM.xY.VY.fname
edit region_getdata
SPM.xY.VY
V = SPM.xY.VY
```

```
V(1)
V(1).dat
V(1).dat = spm_read_vols(V(1));
size(V(1).dat0
size(V(1).dat)
R{1}.data
size(regions{1}.data)
preproc_2nd
change_filenames(s);
sn
sss_imana('BIDS:move_unzip_raw_func','sn',sn);
func_raw_path
output_file
status
%-- 2024-06-27 11:43:17 AM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
sn = 23;
sss_imana('BIDS:move_unzip_raw_func','sn',sn);
preproc_2nd
s = 10
preproc_2nd
s
sss_imana('FUNC:make_fmap','sn',s);
sn = 23
sss_imana('BIDS:move_unzip_raw_fmap','sn',sn);
edit change_filenames
sss_imana('FUNC:make_fmap','sn',s);
s
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
%-- 2024-07-02 02:45:56 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
sss_imana
test
params_after
test
s
test
%-- 2024-07-02 05:14:13 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
test
%-- 2024-07-02 05:42:57 PM --%
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
test
sss_imana('GLM:design','sn',10,'glm',0);
s=10; sss_imana('GLM:design','sn',10,'glm',0);sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);sss_imana('HRF:fit','sn',s,'regN',[1:7]);
test
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 8 10 12 13],'glm',2);
anal_rdm
s = 10;
```

```
load(fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI',sprintf('S%02d_hrf_fit_glm0.mat'),s)));
sss_imana('GLM:design','sn',s,'glm',3,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',3,'fig',0);
sss_imana('ROI_get_prewhitened_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
mean_data
nanmean
nanmean(data)
data
anal_rdm
data
load(sprintf('S%02d_RDM.glm3.mat',subjlist(7)));
Data.RDM{1}
anal_rdm
close all
anal_rdm
edit anal_behav
edit combine_behavdata
sn = 1;
R = construct_dsgmat(sprintf('S%02d',sn),glm);
glm = 2
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R,R2);
R = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R,R2);
R
R.MT(R.isRepBoth==1)
anal_behav
size(R.MT)
size(R.isRepBoth)
R.MT
size(R.MT)
s
subjlist(s)
R
anal_behav
MTr
help ttest
help ttest2
help signrank
for s=1:12 P(s) = signrank(MTr(s,:)-MTn(s,:));end
P
for s=1:12 P(s) = signrank(MTr(s,:)-MTn(s,:));mdiff(s) = mean(MTr(s,:)-MTn(s,:));end
mdiff
P
signrank(mdiff)
R
for s=1:12 P(s) = signrank(RTr(s,:)-RTn(s,:));mdiff(s) = mean(RTr(s,:)-RTn(s,:));end
P
mdiff
signrank(mdiff)
R
R.isNrep
R.isNRep
anal_behav
```

```
R
R.isNrep
anal_behav
signrank(Diffrn_MT)
signrank(Diffrn_RT)
signrank(DiffLV_MT)
DiffLV_MT
Plv_MT
signrank(DiffLV_RT)
DiffLV_RT
anal_behav
signrank(Diffrn_MT2)
signrank(Diffrn_RT2)
Diffrn_RT2
ttest(Diffrn_RT2)
ttest2(Diffrn_RT2)
help ttest
help ttest2
help ttest
[a,b]=ttest(Diffrn_RT2,'kind','paired')
[a,b]=ttest(Diffrn_RT2,zeros(1,12),'kind','paired')
[a,b]=ttest(Diffrn_RT2,zeros(1,12),'kind','paired')
signrank(Diffrn_RT2)
Diffrn_RT2
[a,b]=ttest(-Diffrn_RT2,zeros(1,12),'kind','paired')
[a,b]=ttest(-Diffrn_RT2,zeros(1,12),'kind','paired','tails',2)
[a,b]=ttest(-Diffrn_RT2,zeros(1,12),'tails',2,'kind','paired')
[a,b]=ttest(-Diffrn_RT2,zeros(1,12),2,'kind','paired')
[a,b]=ttest(-Diffrn_RT2,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrn_RT,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrn_MT,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrn_MT2,zeros(1,12),2,'paired')
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',2);
for s=[1:3 5 6 8 10 12 13] sss_imana('ROI:getpsc','sn',s,'glm',2);end
sss_imana('ROI:getpsc','sn',[1:3 5 6 8 10 12 13],'glm',2);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=9.mat')
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',2);
T
T.roi
size(T.roi)
60*9
66*9
570/9
T.roi'
T.cond
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=9.mat')
T
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=9.mat')
T.cond
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',6);
sss_imana
sss_imana('ROI:getpsc','sn',[1:3 5 6 8 10 12 13],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',6);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8 10 12 13],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',2);
T.cond
sss_imana('ROI:getpsc','sn',[1:3 5 6 8 10 12 13],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8 10 12 13],'glm',2,'ptype',2);
ylim([-0.5 0.5]);
ylim([-0.2 0.2]);
```

```
ylim([-0.3 0.3]);
ylim([-0.5 0.5]);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_2/S11/SPM.mat')
data = region_getdata(SPM.xY.VY,
sn = 11
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S11_SSS_regions.mat')
data = region_getdata(SPM.xY.VY,R(1));
size(data)
data
figure;plot(data{1}(:,100))
figure;plot(data{1}(:,10))
data = region_getdata(SPM.xY.VY,R(5));
figure;plot(data{1}(:,10))
close all
s=11
sss_imana('ROI_get_prewhitened_beta','sn',s);
sss_imana('ROI_calc_rdm','sn',s);
anal_rdm
data
close all
anal_rdm
data
clear
anal_rdm
data
data(1,1)
data(1,:)
data(7,:)
subjlist(7)
i=7
load(sprintf('S%02d_RDM.glm3.mat',subjlist(i)));
Data.RDM{1}
anal_rdm
anal_behav
[a,b]=ttest(-Diffrrn_MT,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrrn_RT,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrrn_RT2,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrrn_MT2,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrlv_MT,zeros(1,12),2,'paired')
[a,b]=ttest(-Diffrlv_RT,zeros(1,12),2,'paired')
signrank(Diffrlv_RT)
signrank(Diffrlv_MT)
which spmj_moveparams
open spmj_moveparams
edit sss_imana
sss_imana('FUNC:realign_unwarp','sn',11);
startTR
run_list_cell
open spmj_realign_unwarp
dbquit
close all
edit sss_imana
edit test
edit preproc_2nd
edit test
test
edit test
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0,'endTR',[410*ones(1,10) 401 406 410 404
410 410 385]);
J.data(17)
```

```
J.data(17).scans
J.data(11).scans
J.data(12).scans
J.data(14).scans
edit test
test
%-- 2024-07-05 02:11:48 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
edit test
test
edit preproc_2nd
edit change_filename
edit change_filenames
change_filenames(11);
edit change_filenames
sss_imana('BIDS:move_unzip_raw_func','sn',25);
change_filenames(11);
edit test
test
edit test
edit sss_imana
edit test
sss_imana('PREP:step2','sn',11);
edit preproc_2nd
test
sss_imana('GLM:design','sn',s,'glm',2,'hrf_params',params_after);
J
J.sess(1)
J.sess(2)
J.sess(3)
J.sess(4)
J.sess(5)
J.sess(6).scans
J.sess(7).scans
J.sess(8).scans
J.sess(9).scans
J.sess(10).scans
J.sess(11).scans
J.sess(12).scans
J.sess(13).scans
edit sss_imana
edit test
test
%-- 2024-07-07 11:12:44 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
edit preproc_2nd
preproc_2nd
func_raw_path
output_file
preproc_2nd
sss_imana('FUNC:realign_unwarp','sn',s,'rtm',0,'endTR',[410*ones(1,16) 385]);
sss_imana('FUNC:move_realigned_images','sn',s,'rtm',0);
sss_imana('FUNC:meanimage_bias_correction','sn',s,'prefix','u','rtm',0);
edit preproc_2nd
sss_imana('FUNC:coreg','sn',s);
sss_imana('FUNC:make_samealign','sn',s);
```

```
sss_imana('FUNC:make_maskImage','sn',s);
edit test
test
edit test
s
sss_imana('GLM:tcontrast','sn',s,'glm',2);
sss_imana('GLM:psc','sn',s,'glm',2);
%           sss_imana('WB:surf_resample','sn',s);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('WB:vol2surf_stats','sn',s,'glm',2);
anal_rdm
anal_rdm
anal_rdm
data
subjlist(8)
data(10,:)
data(8,:)
edit anal_rdm
anal_rdm
edit anal_rdm
anal_rdm
anal_rdm
for i=1:9 P(i) = signrank(data(:,i));end
P
signrank(data(:,6)-data(:,4))
for i=1:9 P(i) = signrank(mDissFing_wCue(:,i));end
P
for i=1:9 P(i) = signrank(mDissSeq_wCue(:,i));end
P
close all
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns/S10_ROI_pwhBeta.glm3.mat')
Data
Data.beta{1}
edit test
s=10;
sss_imana('HRF:fit','sn',s,'regN',[1:7]);
for i=1:17 data=importata(sprintf('rp_S10_run_%0.2d',i));figure; for j=1:6 subplot(2,3,%
j);plot(data(:,j));end;end
for i=1:17 data=importdata(sprintf('rp_S10_run_%0.2d',i));figure; for j=1:6 subplot(2,3,%
j);plot(data(:,j));end;end
for i=1:17 data=importdata(sprintf('rp_S10_run_%0.2d.txt',i));figure; for j=1:6 subplot(2,3,%
j);plot(data(:,j));end;end
sprintf('%0.2d.txt',3)
for i=1:17 data=importdata(sprintf('rp_S10_run_%0.2d.txt',i));figure; for j=1:6 subplot(2,3,%
j);plot(data(:,j));end;end
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S10/SPM.mat')
size(SPM.xx)
SPM.xx
SPM
SPM.xVol
SPM
SPM.Sess
SPM.Sess(1)
SPM.Sess(1).Fc
SPM.Sess(1).U
SPM.Sess(1).U.P
sss_imana('FUNC:coreg','sn',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
edit test
```

```
test
test
test
anal_rdm
anal_rdm
close all
anal_rdm
[a,b]=ttest(data(:,4),zeros(11,1))
help ttest
[a,b]=ttest(data(:,4),zeros(11,1),'tails',2,'paired')
[a,b]=ttest(data(:,4),zeros(11,1),2,'paired')
anal_rdm
anal_rdm
anal_rdm
edit sss_imana
sss_imana('SURF:freesurfer','sn',14);
edit preproc_2nd
preproc_2nd
edit preproc_2nd
sss_imana('FUNC:coreg','sn',s);
sss_imana('FUNC:make_samealign','sn',s);
sss_imana('FUNC:make_maskImage','sn',s);
edit test
for i=1:17 data = importdata(sprintf('rp_S14_run_%0.2d',i));figure; for j=1:6 subplot(2,3,j);plot(data(:,j));end;end
for i=1:17 data = importdata(sprintf('rp_S14_run_%0.2d.txt',i));figure; for j=1:6 subplot(2,3,j);plot(data(:,j));end;end
edit preproc_2nd
test
edit test
sss_imana('ROI:redefine','sn',14);
s
sss_imana('WB:surf_resample','sn',s);
sss_imana('ROI:redefine','sn',14);
test
edit test
edit anal_rdm
anal_rdm
edit test
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 7 8 9 10 11],'glm',2);
sss_imana('WB:vol2surf_group','sn',[1 2 3 5 6 8:14],'glm',2);
edit sss_imana
edit test2
sss_imana('WB:vol2surf_stats','glm',2);
atlasDir
pathtosurf=fullfile(atlasDir,sprintf('FS_LR_%s',surf));
P_glasser=gifti(fullfile(pathtosurf,sprintf('Glasser_2016.%sk.%s.label.gii',surf,hem{h})));
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,hem{h})));
P=zeros(size(P_glasser.cdata));
surf=32
surf='32'
pathtosurf=fullfile(atlasDir,sprintf('FS_LR_%s',surf));
P_glasser=gifti(fullfile(pathtosurf,sprintf('Glasser_2016.%sk.%s.label.gii',surf,hem{h})));
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,hem{h})));
P=zeros(size(P_glasser.cdata));
P_glasser=gifti(fullfile(pathtosurf,sprintf('Glasser_2016.%sk.%s.label.gii',surf,'L')));
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,'L')));
```

```
P_glasser
P_glasser.labels
P_glasser.labels.name
P_brodmann
P_brodmann.labels
unique(P_brodmann.cdata)
pathtosurf
P_wang=gifti(fullfile(pathtosurf,sprintf('Wang2015.%sk.%s.label.gii',surf,'L')));
P_wang
P_wang.labels
P_wang.labels.name
P_wang.cdata
length(P_wang.cdata==0)
sum(P_wang.cdata==0)
temp =
edit region_calcregions
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S14_SSS_regions.mat')
R
R{1}
edit sss_imana
edit test
edit test2
edit test
test2
sss_imana('GLM:psc','sn',s,'glm',0);
SPM.xCon
test2
test2
%-- 2024-07-13 11:57:34 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
edit test
edit sss_imana
edit test2
test2
edit test2
sss_imana('GLM:tcontrast','sn',s,'glm',0);
SPM.xCon
contrast_names
length(contrast_names)
length(contrast_names)
optC
test2
R
R{1}.file =
edit test2
sss_imana('WB:vol2surf_stats','glm',0,'map','con');
sss_imana('WB:vol2surf_stats','glm',0,'map','con');
R{1}.file =
pial_files = ['fs_LR.32k.L.pial.surf.gii','fs_LR.32k.R.pial.surf.gii']
white_files = ['fs_LR.32k.L.white.surf.gii','fs_LR.32k.R.white.surf.gii']
S = readSurf(white_files,pial_files)
which rsa.readSurf
atlasDir
pial_files = ['fs_LR.32k.L.pial.surf.gii'];
white_files = ['fs_LR.32k.L.white.surf.gii'];
pial_files
% S = rsa.readSurf({'lh.white.surf.gii'},{'lh.pial.surf.gii'});
S = rsa.readSurf({fullfile(atlasDir,white_files)},{fullfile(atlasDir,pial_files)});
```

```
S = rsa.readSurf({fullfile(atlasDir,white_files)},{fullfile(atlasDir,pial_files)});  
S = rsa.readSurf({fullfile(atlasDir,'fs_LR_32',white_files)},{fullfile(atlasDir,↖  
pial_files)});  
S = rsa.readSurf({fullfile(atlasDir,'fs_LR_32',white_files)},{fullfile↖  
(atlasDir,'fs_LR_32',pial_files)});  
S  
S{1}  
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S14_SSS_regions.mat')  
R  
R{1}  
R{1}.data  
R{1}  
R{1}.location(1:10)  
R{1}.data(1:10,:)  
R{1}.flatcoord(1:10,:)  
M = rsa.readMask('mask.img');  
% L = rsa.defineSearchlight_surface(S,M);  
M = rsa.readMask('mask.nii');  
L = rsa.defineSearchlight_surface(S,M);  
S  
S(1)  
S(1).white  
S{1}  
L = rsa.defineSearchlight_surface(S{1},M);  
L = rsa.defineSearchlight_surface(S,Vmask,'sphere',[15 160]);  
L = rsa.defineSearchlight_surface(S,M,'sphere',[15 160]);  
L = rsa.defineSearchlight_surface(S{1},M,'sphere',[15 160]);  
whites = {fullfile(atlasDir,white_files),{fullfile(atlasDir,pial_files)} };  
edit sss_imana  
sss_imana('WB:vol2surf_stats','glm',0);  
sss_imana('WB:vol2surf_stats','glm',0,'map','con');  
O  
summaryfile  
sss_imana('GLM:psc','sn',1,'glm',2);  
formula  
edit surf_maskLabelGifti  
which surf_makeLabelGifti  
edit surf_makeLabelGifti  
pathtosurf  
atlasDir  
pathtosurf=fullfile(atlasDir,sprintf('FS_LR_%s',surf));  
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,hem{h})));  
P=zeros(size(P_glasser.cdata));  
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,hem{h})));  
pathtosurf=fullfile(atlasDir,sprintf('FS_LR_%s','32'));  
P_brodmann=gifti(fullfile(pathtosurf,sprintf('ROI.%sk.%s.label.gii',surf,hem{h})));  
P=zeros(size(P_glasser.cdata));  
P_glasser=gifti(fullfile(pathtosurf,sprintf('Glasser_2016.%sk.%s.label.gii',surf,hem↖  
{h})));  
P_glasser=gifti(fullfile(pathtosurf,sprintf('Glasser_2016.%sk.%s.label.↖  
gii','32','L')));  
size(P_glasser.cdata)  
ROI_name={'SMA','PMv','PMd','M1','S1','SPLa','SPLp','DSVC','MT+','VSVC','EAC'};  
mask = load('fmask_data.mat');  
mask  
G = surf_maskLabelGifti(mask,'labelNames',ROI_name);  
G = surf_makeLabelGifti(mask.mask,'labelNames',ROI_name);  
mask.mask  
sum(mask.mask)
```

```
unique(mask.mask)
G = surf_makeLabelGifti(mask.mask,'labelNames',ROI_name);
size(P_glasser.cdata)
G = surf_makeLabelGifti(mask.mask','labelNames',ROI_name);
save(G,'fROI.L.SSS.label.gii');
sss_imana('ROI:redefine','sn',8);
R
sss_imana('ROI:redefine','sn',8);
ROI_name
n_roi
ROI_name
P
unique(P)
ROI_name={' ','SMA','PMv','PMd','M1','S1','SPLa','SPLp','DSVC','MT+','VSVC','EAC'};
ROI_name
for s=[1 2 3 5 6 8:14] sss_imana('ROI:redefine','sn',s);end
for s=[1 2 3 5 6 8:14] sss_imana('ROI:redefine','sn',s);end
anal_rdm
i
edit anal_rdm
anal_rdm
Data.RDM
Data.RDM{1}
rsa.rdm.squareRDM(Data.RDM{1})
figure;imagesc(ans)
temp = rsa.rdm.squareRDM(Data.RDM{1});
idx = igure;imagesc(temp[1 3 5 7 2 4 6 8sprintf('S%02d_RDM.glm3.mat',subjlist(i)));
%     for r=1:9
idx = [1 3 5 7 2 4 6 8];
figure;imagesc(temp(idx, idx))
figure;imagesc(temp([idx, idx]))
size(temp)
idx
figure;imagesc(temp(idx, idx))
sort_idx = [1 3 5 7 2 4 6 8];
figure;
for i=1:length(subjlist)
load(sprintf('S%02d_RDM.glm3.mat', subjlist(i)));
for r=1:7
subplot(2,4,r);
RDM_all(r,i,:,:,:) = rsa.rdm.squareRDM(Data.RDM{r})(sort_idx,sort_idx)
end
end
anal_rdm
for r=1:7 RDM(r,:,:,:) = mean(RDM_all(r,:,:,:),2);end
figure; for r=1:7 subplot(2,3,r);imagesc(squeeze(RDM(r,:,:)));end
figure; for r=1:7 subplot(2,4,r);imagesc(squeeze(RDM(r,:,:)));end
ROI_name
RDM
Data
Data.name
Data.glm
figure; for r=1:7 subplot(2,4,r);imagesc(squeeze(RDM(r,:,:)));title(ROI_names{r+1});end
ROI_name
figure; for r=1:7 subplot(2,4,r);imagesc(squeeze(RDM(r,:,:)));title(ROI_name{r+1});end
figure; for r=1:7 subplot(2,4,r);imagesc(squeeze(RDM(r,:,:)));title(ROI_name{r+1});%
colorbar;end
RDM_all(1,1,[1:4],[5:8])temp = rsa.rdm.squareRDM(Data.RDM{r});
mean(RDM_all(r,:,:,[1:4],[5:8]),2))
```

```

mean(RDM_all(r,:,:,[1:4],[5:8]),2)
squeeze(mean(RDM_all(r,:,:,[1:4],[5:8]),2))
diag(squeeze(mean(RDM_all(r,:,:,[1:4],[5:8]),2)))
sum(squeeze(mean(RDM_all(r,:,:,[1:4],[5:8]),2)))
rsa.rdm.vectorizeRDM(squeeze(RDM_all(1,1,:,:,:)))
squeeze(RDM_all(1,1,:,:,:))
rsa.rdm.vectorizeRDM(squeeze(RDM_all(1,1,:,:,:))')
anal_rdm
diss_rep_across-diss_nrep_across
std(ans)
std(diss_rep_across'-diss_nrep_across')
mean_data
mean_data = mean(diss_rep_across-diss_nrep_across,2);
sem_data = std(diss_rep_across'-diss_nrep_across',2)'/sqrt(12);
%
sem_data = std(diss_rep_across'-diss_nrep_across')'/sqrt(12);
labels = {'L-SMA','L-PMv','L-PMd','L-M1','L-S1','L-SPLa','L-SPLp','L-DSVC','L-MT+'};
% Create bar plot
figure;
bar(mean_data);
hold on;
% Add error bars
errorbar(mean_data, sem_data, 'k', 'linestyle', 'none');
% Customize plot
set(gca, 'XTick', 1:9, 'XTickLabel', labels);
xlabel('Regions of Interest','FontSize',14);
ylabel('Mean dissimilarity (a.u.)','FontSize',14);
% title('Motor sequences within the same cue', 'FontSize',18);
% title('First finger within the same cue', 'FontSize',18);
% title('Cue with same motor sequence', 'FontSize',18);
hold off;
box off;
anal_rdm
plot_rdm_roi(diss_rep_within_L);
plot_rdm_roi(diss_rep_within_R);
plot_rdm_roi(diss_rep_within_S);
plot_rdm_roi(diss_nrep_across-diss_rep_across);
figure; subplot(131);
plot_rdm_roi(diss_rep_within_L);
title('Dissimilarity change due to repetition across visual cues');
title('Dissimilarity change due to SR within letter cue');
title('Dissimilarity change due to SR within letter cue');
subplot(132);
plot_rdm_roi(diss_rep_within_V);
plot_rdm_roi(diss_rep_within_S);
figure; subplot(131);
plot_rdm_roi(diss_rep_within_L); ylim([0 0.65]); title('Similarity change due to sequence repetition within letter cue');
subplot(132);
plot_rdm_roi(diss_rep_within_S); ylim([0 0.65]); title('Similarity change due to sequence repetition within spatial cue');
subplot(133);
plot_rdm_roi(diss_nrep_across-diss_rep_across); ylim([0 0.65]); title('Similarity change due to sequence repetition across cues');
anal_rdm
figure; subplot(131);
plot_rdm_roi(diss_rep_within_L); ylim([0 0.65]); title('Similarity change due to sequence repetition within letter cue');
subplot(132);
plot_rdm_roi(diss_rep_within_S); ylim([0 0.65]); title('Similarity change due to sequence repetition within spatial cue');

```

```
repetition within spatial cue');
subplot(133);
plot_rdm_roi(diss_nrep_across-diss_rep_across);ylim([0 0.65]);title('Similarity change ↵
due to sequence repetition across cues');
close all
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/fmask_data.mat')
clear
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/fmask_data.mat')
mask
unique(mask)
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/fmask_data.mat')
unique(mask)
which sss_imana
edit sss_imana
PP=load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/fmask_data.mat');
PP
sss_imana('ROI:redefine','sn',1);
P
sum(find(P==0))
size(P)
sum(P==0)
sum(P==1)
for s=[1 2 3 5 6 8:14] sss_imana('ROI:redefine','sn',s);end
edit sss_imana
edit analrdm
edit anal_rdm
anal_rdm
load('S10_Task_regions.mat')
R
R{1}
R{2}
R{3}
R{4}
R{5}
R{6}
R{7}
R{8}
R{9}
R{10}
R{11}
sss_imana('ROI:redefine','sn',1);
P
PP = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/surfaceWB/group32k/fmask_data.↵
mat');
PP.mask
unique(PP.mask)
unique(P)
temp = PP.mask'*P
temp = PP.mask'.*P
length(find(temp==0))
length(find(temp==1))
length(find(temp==2))
length(find(temp==3))
length(find(temp==4))
idx = find(PP.mask==2);
size(idx)
idx
idx2 = find(P==2);
size(idx2)
size(idx)
```

```
P = (PP.mask' ~=0).*P;
idx2 = find(P==0);
sum(P==0)
sum(P==1)
sum(P==2)
sum(P==3)
sum(P==4)
sum(P==5)
for L(i) = sum(P==i);end
for i=0:11 L(i) = sum(P==i);end
for i=1:12 L(i) = sum(P==i-1);end
L
for s=[1 2 3 5 6 8:14] sss_imana('ROI:redefine','sn',s);end
anal_rdm
edit anal_rdm
edit plot_rdm_roi
edit plot_rdm_roi
edit anal_rdm
edit plot_rdm_roi
edit anal_rdm
figure;subplot(231);
plot_rdm_roi(diss_rep_within_L);ylim([0 0.8]);title('Similarity change due to sequence repetition within letter cue');
subplot(232);
plot_rdm_roi(diss_rep_within_S);ylim([0 0.8]);title('Similarity change due to sequence repetition within spatial cue');
subplot(233);
plot_rdm_roi(diss_nrep_across-diss_rep_across);ylim([0 0.8]);title('Similarity change due to sequence repetition across cues');
subplot(234);
plot_rdm_roi(diss_repf_within_L);ylim([0 0.8]);title('Similarity change due to finger repetition within letter cue');
subplot(235);
plot_rdm_roi(diss_repf_within_S);ylim([0 0.8]);title('Similarity change due to finger repetition within spatial cue');
subplot(236);
plot_rdm_roi(diss_nrepf_across-diss_repf_across);ylim([0 0.05]);title('Similarity change due to finger repetition across cues');
edit anal_rdm
figure;subplot(231);
plot_rdm_roi(diss_rep_within_L);ylim([0 0.8]);title('Similarity change due to sequence repetition within letter cue');
subplot(232);
plot_rdm_roi(diss_rep_within_S);ylim([0 0.8]);title('Similarity change due to sequence repetition within spatial cue');
subplot(233);
plot_rdm_roi(diss_nrep_across-diss_rep_across);ylim([0 0.8]);title('Similarity change due to sequence repetition across cues');
subplot(234);
plot_rdm_roi(diss_nrepf_within_L-diss_repf_within_L);ylim([0 0.8]);title('Similarity change due to finger repetition within letter cue');
subplot(235);
plot_rdm_roi(diss_nrepf_within_S-diss_repf_within_S);ylim([0 0.8]);title('Similarity change due to finger repetition within spatial cue');
subplot(236);
plot_rdm_roi(diss_nrepf_across-diss_repf_across);ylim([0 0.05]);title('Similarity change due to finger repetition across cues');
subplot(234);
plot_rdm_roi(diss_nrepf_within_L-diss_repf_within_L);ylim([0 0.02]);title('Similarity change due to finger repetition within letter cue');
```

```
subplot(235);
plot_rdm_roi(diss_nrepf_within_S-diss_repf_within_S);ylim([0 0.02]);title('Similarity ↵
change due to finger repetition within spatial cue');
subplot(236);
plot_rdm_roi(diss_nrepf_across-diss_repf_across);ylim([0 0.02]);title('Similarity ↵
change due to finger repetition across cues');
figure;subplot(231);
plot_rdm_roi(diss_rep_within_L);ylim([0 0.8]);title('Similarity change due to sequence ↵
repetition within letter cue');
subplot(232);
plot_rdm_roi(diss_rep_within_S);ylim([0 0.8]);title('Similarity change due to sequence ↵
repetition within spatial cue');
subplot(233);
plot_rdm_roi(diss_nrep_across-diss_rep_across);ylim([0 0.8]);title('Similarity change ↵
due to sequence repetition across cues');
subplot(234);
plot_rdm_roi(diss_nrepf_within_L-diss_repf_within_L);ylim([-0.04 0.04]);title(
('Similarity change due to finger repetition within letter cue'));
subplot(235);
plot_rdm_roi(diss_nrepf_within_S-diss_repf_within_S);ylim([-0.04 0.04]);title(
('Similarity change due to finger repetition within spatial cue'));
subplot(236);
plot_rdm_roi(diss_nrepf_across-diss_repf_across);ylim([-0.04 0.04]);title('Similarity ↵
change due to finger repetition across cues');
for i=1:length(subjlist)
sss_imana('ROI_get_prewhitened_beta','sn',subjlist(i));
sss_imana('ROI_calc_rdm','sn',subjlist(i));
fprintf('Processed S%02d\n',subjlist(i));
end
edit sss_imana
R = construct_dsgmat(1)
R = construct_dsgmat('S01',1);
R
R.cond(1,:)
R.tS(1,:)
R.transID
R = construct_dsgmat('S02',1);
R
R.transID
edit calc_optWeights2
edit calc_optWeights
sn = 1
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
glm = 2
glm = 1
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
R
R.transID(1,:)
R.transID
nRun = 16; nTr = 68;
i = 1
temp = zeros(nRun, nTr);
temp(R.transID == i) = 1;
sum(sum(temp))
R.isValid
R.isValidRep
```

```
sum(sum(R.isValid))
68*16
sum(sum(R.isValidRep))
sn = 3
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
sum(sum(R.isValidRep))
size(R.isValidRep)
edit test
edit test2
test2
load('SPM.mat')
SPM
s
sss_imana('GLM:design','sn',s,'glm',1,'nTR',nTRs(k,:),'hrf_params',params_after);
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',0);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',1,'map','psc');
%           sss_imana('WB:surf_resample','sn',s);
%           sss_imana('WB:vol2surf_indiv','sn',s,'glm',0,'map','con');
%sss_imana('GLM:tcontrast','sn',s,'glm',4);
%     sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','con');
%     sss_imana('ROI:redefine','sn',s);
k = k + 1;
edit test2
sss_imana('GLM:design','sn',s,'glm',1,'nTR',nTRs(k,:),'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',0);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',1,'map','psc');
%           sss_imana('WB:surf_resample','sn',s);
%           sss_imana('WB:vol2surf_indiv','sn',s,'glm',0,'map','con');
%sss_imana('GLM:tcontrast','sn',s,'glm',4);
%     sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','con');
%     sss_imana('ROI:redefine','sn',s);
k = k + 1;
edit test2
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
size(X)
410*16+385
410*16
64*16
64*16+16
65*16+16
68*16+16
size(optC)
optC(1,:)
for i=1:length(contrast_names)
SPM.xCon(i) = spm_FcUtil('Set', contrast_names{i}, 'T', 'c', optC(i,:)', SPM.xx.xKxs);
end
size(contrast_names)
contrast_names
edit test2
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',0);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',1,'map','psc');
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
i
i=1
```

```
SPM.xCon(i) = spm_FcUtil('Set', contrast_names{i}, 'T', 'c', optC(i,:)', SPM.xX.xKXs);
contrast_names{1}
size(optC(1,:))
SPM.xX.xKXs
SPM.xCon(i) = spm_FcUtil('Set', contrast_names{i}, 'T', 'c', optC(i,:)', SPM.xX.xKXs);
SPM.xCon
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',0);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',1,'map','psc');
k
test2
%-- 2024-07-16 08:11:33 AM --%
sss_add_path
s = 14
load(fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI',sprintf('S%←
02d_hrf_fit_glm0.mat',s)));
sss_imana('GLM:estimate','sn',s,'glm',1,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',1,'opt',0);
test2
edit test2
load('SPM.mat')
SPM
SPM.xY
SPM.xY.VY
SPM.xY.VY(1)
SPM.xY.VY(1).fname
SPM.xY
SPM
SPM.xCon
SPM.xCon(1).name
SPM.xCon(1).STAT
SPM.xCon(1).Vcon
SPM.xCon(1)
SPM.xCon(1).Vspm
SPM.
SPM
SPM.Vbeta
SPM.Vbeta(1).fname
SPM
SPM.xVol
SPM
SPM.xBF
SPM
SPM.xY
SPM.Sess
SPM.xGX
which sss_ima a
temp = dir('psc_Trans*nii')
temp(1).name
O = {};  
for i=1:length(temp) O{i}=temp(i).name;end
V = spm_vol(char(O));
V
V(1).mat
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14]);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',1);
load('psc_glm1_SSS_N=12.mat')
T
T=load('psc_glm1_SSS_N=12.mat')
T.psc
T
```

```
8448/11
8448/(12*11)
edit construct_dsgmat
cond
resphae([1:64],8,8)
reshape([1:64],8,8)
reshape([1:64],8,8)'
edit anal_rdm
edit anal_rs
T=load('psc_glm1_SSS_N=12.mat');
T
T.cond
psc = reshape(T.psc,64,length(T.psc)/64));
psc = reshape(T.psc,64,length(T.psc)/64);
size(psc)
T
T.SN
T.SN'
T.SN(1:100)
T.SN(400:600)
T.SN(4000:6000)
unique(T.SN)
size(psc)
132/12
clear psc
for i=1:12 psc(i,:,:)=reshape(T.psc(64*11*(i-1)+1:64*11*i),64,11);end
size(psc)
size(psc)
sort_idx = [1:2:7 2:2:8 17:2:23 18:2:24 33:2:39 34:2:40 49:2:55 50:2:56 9:2:15 10:2:16];
25:2:31 26:2:32 41:2:47 42:2:48 57:2:63 58:2:64];
length(sort_idx)
unique(sort_idx)
size(psc)
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm1_SSS_N=12.mat');
for i=1:12
psc(i,:,:)=reshape(T.psc(64*11*(i-1)+1:64*11*i),64,11);
end
sort_idx = [1:2:7 2:2:8 17:2:23 18:2:24 33:2:39 34:2:40 49:2:55 50:2:56 9:2:15 10:2:16];
25:2:31 26:2:32 41:2:47 42:2:48 57:2:63 58:2:64];
psc_sort = psc(:,sort_idx,:);
size(psc_sort)
temp = mean(psc_sort,1);
size(temp)
anal_rs
reshape(temp(:,r),8,8)'
isnan(psc_sort)
sum(isnan(psc_sort))
anal_rs
sum(isnan(psc_sort(1,:,:)))
sum(isnan(psc_sort(1,1,:)))
size(psc_sort)
isnan(psc_sort(1,1,:))
dir('psc*nii')
length(dir('psc*nii'))
contrast_names = {'MotorR','MotorN','MotorR-N',...
'CueR','CueN','CueR-N','BothR','BothN','BothR-N',...
'MotorOnly','CueOnly','MotorOnly-CueOnly',...
'MotorR-L','MotorR-S','MotorR-L-S',...
'CueR-L','CueR-S','CueR-L-S',...
'Letter','Spatial','Letter-Spatial',...}
```

```
'BothRep-L','BothRep-S','BothRep-L-S',...
'CueOnly-L','CueOnly-S','CueOnly-L-S',...
'BothRep-CueOnly-L','BothRep-CueOnly-S','BothRep-CueOnly-L-S',...
'BothRep-CueOnly','MotorOnly-BothN'}};

contrast_names{22}
contrast_names{23}
contrast_names{25}
contrast_names{26}
edit calc_optWeights2
edit test
for s=[1:3 5 6 8:14] sss_imana('GLM:tcontrast','sn',s,'glm',2,'opt',0);end
for s=[1:3 5 6 8:14] sss_imana('GLM:psc','sn',s,'glm',2);end
help normData
sss_imana('ROI:getpsc','glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat')
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat')
help barplot
sss_imana('ROI:plotSSS_avg','ptype',2,'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'ptype',2,'glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'ptype',2,'glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'ptype',2,'glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'ptype',1,'glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'ptype',1,'glm',2);
T
1056/7
unique(T.roi)
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat');
unique(T.roi)
T
672/7
96/2
96/12
cond
T.SN
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat');
nR = 7; nC = 8; nS = 12;
for i=1:nS
psc(i,:,:)=reshape(T.psc(nC*nR*(i-1)+1:nC*nR*i),nC,nR);
end
size(psc)
size(T.psc)
56*12
clear psc
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat');
nR = 7; nC = 8; nS = 12;
for i=1:nS
psc(i,:,:)=reshape(T.psc(nC*nR*(i-1)+1:nC*nR*i),nC,nR);
end
size(psc)
r=1
semdata = std(squeeze(psc(:,:,r)))/sqrt(nS);
semdata
squeeze(psc(:,:,1))
T.psc(find(T.SN==2))
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
```

```
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=12.mat');
nR = 7; nC = 8; nS = 12;
for i=1:nS
psc(i,:,:)=reshape(T.psc(nC*nR*(i-1)+1:nC*nR*i),nC,nR);
end
%
squeeze(psc(:,:,1))
T.psc(find(T.SN==2))
T.psc(find(T.SN==1))
T.psc(find(T.SN==3))
T.psc(find(T.SN==4))
T.psc(find(T.SN==6))
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm1_SSS_N=12.mat')
psc
psc(find(SN==2))
psc(find(SN==1))'
psc(isnan(psc))
find(isnan(psc))
T= load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=12.mat');
T
T.roi(find(isnan(T.psc)))
T.roi(find(isnan(T.psc)))'
unique(ans)
T.SN(find(isnan(T.psc)))'
unique(SN)
T.SN(find(isnan(T.psc)==1))'
size(T.psc)
T.psc(find(isnan(T.psc)==0))'
T.SN(find(isnan(T.psc)==0))'
T.roi(find(isnan(T.psc)==0))'
T.cond(find(isnan(T.psc)==0))'
unique(ans)
load('S02_Task_regions.mat')
R
R{1}
O = {'psc_BothRep-L.nii','psc_CueRep-L.nii','psc_MotorRep-L.nii','psc_NRep-L.nii',...
'psc_BothRep-S.nii','psc_CueRep-S.nii','psc_MotorRep-S.nii','psc_NRep-S.nii'};
SeqType = [1 1 1 1 2 2 2 2];
RepType = [1 2 3 4 1 2 3 4];
% load ROI
%           load(fullfile(baseDir,roiDir,sprintf('%s_%s_regions.mat',sprintf('S%02d',s),'Task')));
load(fullfile(baseDir,roiDir,sprintf('%s_%s_regions.mat',sprintf('S%02d',s),'SSS')));
%cond = [1 2 3 1 2 3]';
%           cond = [1 2 3 4 5 6 7 8 9 10 11]';
%           cond = [1 2 3 4 5 6]';
%           cond = [1 2]';
V=spm_vol(char(O));
s
s=1
load(fullfile(baseDir,roiDir,sprintf('%s_%s_regions.mat',sprintf('S%02d',s),'SSS')));
V=spm_vol(char(O));
r = 1
Y=region_getdata(V,R{r});
Y
help nanmean
prod(size(Y))
size(Y)
size(find(isnan(Y)==1))
edit region_getdata
```

```
size(Y)
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
anal_rs
clear psc
anal_rs
T
T.psc
find(isnan(T.psc)==1)
anal_rs
psc
size(psc)
meandata
anal_rs
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
anal_rs
semdata
for r=1:7 p(r) = signrand(squeeze(psc(:,7,r)-psc(:,8,r)));end
for r=1:7 p(r) = signrank(squeeze(psc(:,7,r)-psc(:,8,r)));end
p
anal_rs
for r=1:7 p(r) = signrank(squeeze(psc(:,7,r)-psc(:,8,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,3,r)-psc(:,4,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,3,r)+psc(:,7,r)-psc(:,4,r)-psc(:,8,r)));end
p
anal_rs
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
anal_rs
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
mean(squeeze(psc(:,5,r)-psc(:,6,r)))
(squeeze(psc(:,5,r)-psc(:,6,r))
(squeeze(psc(:,5,r)-psc(:,6,r)))
for r=1:7 MM(r) = mean(squeeze(psc(:,5,r)-psc(:,6,r)));end
MM
for r=1:7 MM(r) = mean(squeeze(psc(:,1,r)-psc(:,2,r)));end
MM
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
anal_rs
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
for r=1:7 MM(r) = mean(squeeze(psc(:,1,r)-psc(:,2,r)));end
MM
squeeze(psc(:,1,1)-psc(:,2,1))
anal_rs
for r=1:7 MM(r) = mean(squeeze(psc(:,5,r)-psc(:,6,r)));end
MM
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,3,r)+psc(:,7,r)-psc(:,4,r)-psc(:,8,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,7,r)-psc(:,8,r)));end
p
```

```
for r=1:7 p(r) = signrank(squeeze(psc(:,4,r)-psc(:,8,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,8,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,4,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
for r=1:7 p(r) = signrank(squeeze(psc(:,7,r)-psc(:,8,r)));end
p
for r=1:7 p(r) = signrank(mean(squeeze(psc(:,7,:)-psc(:,8,:)))));end
squeeze(psc(:,5,r)-psc(:,6,r)))
%-- 2024-07-16 03:18:47 PM --%
sss_add_path
addpath '/home/ROBARTS/skim2764/Documents/MATLAB/scripts'
sss_add_path
anal_rs
for r=1:7 p(r) = signrank(mean(squeeze(psc(:,7,:)-psc(:,8,:)))));end
p
squeeze(psc(:,5,:)-psc(:,6,:))
squeeze(psc(:,5,:)-psc(:,6,:))
mean(ans)
mean(squeeze(psc(:,5,:)-psc(:,6,:))')
signrank(mean(squeeze(psc(:,5,:)-psc(:,6,:))'))
signrank(mean(squeeze(psc(:,1,:)-psc(:,2,:))'))
mean(squeeze(psc(:,1,:)-psc(:,2,:))')
signrank(mean(squeeze(psc(:,3,:)-psc(:,4,:))'))
signrank(mean(squeeze(psc(:,7,:)-psc(:,8,:))'))
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
anal_rs
clear psc
anal_rs
size(psc)
for r=1:11 p(r) = signrank(mean(squeeze(psc(:,7,:)-psc(:,8,:)))));end
p
p< 0.05
p
p(1)
for r=1:7 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
anal_rs
1/(2^12)
for r=1:7 p(r) = signrank(squeeze(psc(:,3,r)-psc(:,4,r)));end
p
T
T.SN
length(find(T.SN==1))
find(T.SN==1)
nC
nR
find(T.SN==2)
find(T.SN==2)'
T.cond
T.cond(1:88)
T.cond(1:88)'
size(psc)
for r=1:11 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
```

```
signrank(mean(squeeze(psc(:,1,:)-psc(:,2,:))))
mean(squeeze(psc(:,1,:)-psc(:,2,:)))
signrank(mean(squeeze(psc(:,1,:)-psc(:,2,:)),2))
mean(squeeze(psc(:,1,:)-psc(:,2,:)),2)
length(ans)
mean(squeeze(psc(:,1,:)-psc(:,2,:)),2)
signrank(mean(squeeze(psc(:,1,:)-psc(:,2,:)),2))
signrank(mean(squeeze(psc(:,5,:)-psc(:,6,:)),2))
signrank(mean(squeeze(psc(:,7,:)-psc(:,8,:)),2))
signrank(mean(squeeze(psc(:,3,:)-psc(:,4,:)),2))
signrank(mean(squeeze(psc(:,1,:)-psc(:,4,:)),2))
signrank(mean(squeeze(psc(:,5,:)-psc(:,8,:)),2))
for r=1:11 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,2,r)));end
p
for r=1:11 p(r) = signrank(squeeze(psc(:,1,r)-psc(:,3,r)));end
p
for r=1:11 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,7,r)));end
p
for r=1:11 p(r) = signrank(squeeze(psc(:,7,r)-psc(:,8,r)));end
p
for r=1:11 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
size(psc)
T.cond(1:88)
T.cond(1:88)'
size(psc)
psc(1,5,3)
T.psc(T.SN==1 & T.roi==3 & T.cond==5)
T.psc(T.SN==3 & T.roi==4 & T.cond==7)
psc(3,4,7)
psc(3,7,4)
for r=1:11 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,6,r)));end
p
for r=1:11 p(r) = signrank(squeeze(psc(:,5,r)-psc(:,7,r)));end
p
T
T.nanperc
find(T.nanperc>0.01)
find(T.nanperc>0.05)
find(T.nanperc>0.1)
find(T.nanperc>0.05)
size(find(T.nanperc>0.05))
size(T.nanperc)
T.nanperc(find(T.nanperc>0.05))
T.nanperc(find(T.nanperc>0.05))'
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_Task_N=12.mat');
T = load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/psc_glm2_SSS_N=12.mat');
T.nanperc(find(T.nanperc>0.05))'
T.nanperc(find(T.nanperc>0.01))'
edit test
load('SPM.mat')
SPM.xCon
for s=[1:3 5 6 8:14] sss_imana('WB:vol2surf_iniv','sn',s,'glm',2,'map','psc');end
for s=[1:3 5 6 8:14] sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');end
sss_imana('WB:vol2surf_group','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('WB:vol2surf_stats','sn',s,'glm',2);
sss_imana('WB:vol2surf_stats','glm',2);
edit test2
test2
sss_imana
```

```
test2
load('SPM.mat')
SPM.xCon
SPM.xCon.name
edit test2
sss_imana('WB:vol2surf_stats''glm',2,'map','psc');
sss_imana('WB:vol2surf_stats','glm',2,'map','psc');
anal_rdm
figure; subplot(231);
plot_rdm_roi(-diss_rep_within_L); ylim([-0.8 0]); title('Dissimilarity change due to sequence repetition within letter cue');
subplot(232);
plot_rdm_roi(-diss_rep_within_S); ylim([-0.8 0]); title('Dissimilarity change due to sequence repetition within spatial cue');
subplot(233);
plot_rdm_roi(diss_rep_across-diss_nrep_across); ylim([0 0.8]); title('Dissimilarity change due to sequence repetition across cues');
subplot(234);
plot_rdm_roi(diss_repf_within_L-diss_nrepf_within_L); ylim([-0.04 0.1]); title('Dissimilarity change due to finger repetition within letter cue');
subplot(235);
plot_rdm_roi(diss_repf_within_S-diss_nrepf_within_S); ylim([-0.04 0.1]); title('Dissimilarity change due to finger repetition within spatial cue');
subplot(236);
plot_rdm_roi(diss_nrepf_across-diss_repf_across); ylim([-0.1 0.04]); title('Similarity change due to finger repetition across cues');
anal_rdm
title('\Delta Dissimilarity change due to sequence repetition within letter cue');
figure
title('\Delta Dissimilarity change due to sequence repetition within letter cue');
edit plot_rdm_roi
edit anal_rdm
anal_rdm
close all
edit plot_rdm_roi
anal_rdm
%-- 2024-07-17 01:15:17 PM --%
anal_rdm
sss_ad_path
sss_add_path
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
figure;
plot_rdm_roi(mDissSeq_wCue);
temp
mDiss(:,1)'
rsa.rdm.vectorizeRDM(squeeze(RDM_all(1,1,:,:)))
mean(ans)
6*diss_rep_within_L+6*diss_rep_within_S
temp = ans;
mDissSeq_wCue*12-temp
mDissSeq_wCue*12
temp2 = ans;
size(temp)
size(temp2)
temp2 = temp2';
temp(1:9,:)-temp2
size(temp2)
size(temp)
```

```
6*diss_rep_within_L+6*diss_rep_within_S
temp = 6*diss_rep_within_L+6*diss_rep_within_S
temp2 = mDissSeq_wCue*12
size(temp)
size(temp2)
temp2 = temp2';
temp(1:9,:)-temp2
i=1
load(sprintf('S%02d_fRDM.glm3.mat',subjlist(i)));
Data.RDM{1}
temp = rsa.rdm.squareRDM(ans)
temp
Data.RDM{1}'
temp
Data.RDM{1}
temp2 = temp(sort_idx,sort_idx)
sort_idx = [2 4 6 1 3 5 7 15 17 8 14 16 18 24 10 19 23 25 12 21 26 28 9 11 13 20 22 ↵
27];
unique(sort_idx)
length(sort_idx)
anal_rdm
temp = 6*diss_rep_within_L+6*diss_rep_within_S
temp2 = mDissSeq_wCue*12
size(temp)
size(temp2)
temp2 = temp2';
temp(1:9,:)-temp2
anal_rdm
help bar
figure;bar(mean(mDissCue),'g');
figure;bar(mean(mDissCue),'r');
figure;bar(mean(mDissCue),'c');
figure;bar(mean(mDissCue),'g');
anal_rdm
sss_imana('ROI:getpsc','glm',2);
sss_imana('ROI:getpsc','sn',[1:3 5 6 8:14],'glm',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'glm',2,'ptype',1);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'glm',2,'ptype',2);
sss_imana('ROI:plotSSS_avg','sn',[1:3 5 6 8:14],'glm',2,'ptype',1);
anal_behav
figure
bar([mean(mMTv) mean(mMTl)]);
hold on;
errorbar([mean(mMTv) mean(mMTl)], [std(mMTv)/sqrt(12) std(mMTl)/sqrt(12)], 'k', ↵
'linestyle', 'none');
size(mMTv)
% Sample Data
data = randn(12, 6); % Replace with your actual data
% Calculate mean and standard error
meanData = mean(data);
stderrData = std(data) / sqrt(size(data, 1));
% Create bar plot
figure;
barHandle = bar(meanData, 'FaceColor', 'flat');
hold on;
% Add error bars
errorbar(meanData, stderrData, 'k', 'LineStyle', 'none');
% Overlay individual data points
for i = 1:size(data, 2)
scatter(repmat(i, 1, size(data, 1)), data(:, i), 'filled', 'MarkerFaceColor', 'b');
```

```
end
% Customize the plot
xlabel('Conditions');
ylabel('Values');
title('Bar and Errorbar Plot with Individual Data Points');
grid on;
hold off;
figure;
barHandle = bar(meanData, 'FaceColor', 'flat');
hold on;
% Add error bars
errorbar(meanData, stderrData, 'k', 'LineStyle', 'none');
% Overlay individual data points
for i = 1:size(data, 2)
scatter(repmat(i, 1, size(data, 1)), data(:, i), 'filled', 'MarkerFaceColor', 'b');
end
% Customize the plot
xlabel('Conditions');
ylabel('Values');
title('Bar and Errorbar Plot with Individual Data Points');
grid on;
hold off;
size(mMTv)
edit construct_dsgmat
s=1;glm = 2;
R = construct_dsgmat(sprintf('S%02d',s,glm));
R2 = construct_dsgmat(sprintf('R%02d',s,glm));
R = combine_behavdata(R,R2);
R = construct_dsgmat(sprintf('S%02d',s,glm));
R = construct_dsgmat(sprintf('S%02d',s,glm));
R2 = construct_dsgmat(sprintf('R%02d',s,glm));
R = combine_behavdata(R,R2);
R
R.MT(R.cond==1)
R.RT(R.cond==1)
[RT, MT]=calc_rt_mt
mean(RT)
mean(MT)
[RT, MT]=calc_rt_mt
help bar
help errorbar
[RT, MT]=calc_rt_mt
figure;
subplot(1,2,1);
bar([1 2 3 4], mean(RT(:,1:4)), 'b');
hold on;
errorbar([1 2 3 4], std(RT(1:4))/sqrt(size(RT,1)));
bar([1 2 3 4], mean(RT(:,5:8)), 'r');
errorbar([1 2 3 4], std(RT(5:8))/sqrt(size(RT,1)));
errorbar([1 2 3 4], std(RT(:,1:4))/sqrt(size(RT,1)));
errorbar(std(RT(:,1:4))/sqrt(size(RT,1)));
errorbar(mean(RT(:,1:4)),std(RT(:,1:4))/sqrt(size(RT,1)));
errorbar(mean(RT(:,1:4)),std(RT(:,1:4))/sqrt(size(RT,1)));
errorbar(mean(RT(:,1:4)),std(RT(:,1:4))/sqrt(size(RT,1)));
figure;
subplot(1,2,1);
bar([1 2 3 4], mean(RT(:,1:4)), 'b');
hold on;
errorbar(mean(RT(:,1:4)), std(RT(:,1:4))/sqrt(size(RT,1)));
bar([5 6 7 8], mean(RT(:,5:8)), 'r');
```

```

errorbar(mean(RT(:,5:8)),std(RT(:,5:8))/sqrt(size(RT,1)));
figure;
subplot(1,2,1);
bar([1 2 3 4], mean(RT(:,1:4)), 'b');
hold on;
errorbar(mean(RT(:,1:4)), std(RT(:,1:4))/sqrt(size(RT,1)));
bar([5 6 7 8], mean(RT(:,5:8)), 'r');
errorbar(mean(RT(:,5:8)),std(RT(:,5:8))/sqrt(size(RT,1)));
figure;
subplot(1,2,1);
bar([1 2 3 4], mean(RT(:,1:4)), 'b');
hold on;
errorbar(mean(RT(:,1:4)), std(RT(:,1:4))/sqrt(size(RT,1)));
bar([7 8 9 10], mean(RT(:,5:8)), 'r');
errorbar(mean(RT(:,5:8)),std(RT(:,5:8))/sqrt(size(RT,1)));
subplot(1,2,2);
bar([1 2 3 4], mean(MT(:,1:4)), 'b');
hold on;
errorbar(mean(MT(:,1:4)), std(MT(:,1:4))/sqrt(size(MT,1)));
bar([7 8 9 10], mean(MT(:,5:8)), 'r');
errorbar(mean(MT(:,5:8)),std(MT(:,5:8))/sqrt(size(MT,1)));
figure;
subplot(1,2,1);
bar([1 2 3 4], mean(RT(:,1:4)), 'b');
hold on;
errorbar(mean(RT(:,1:4)), std(RT(:,1:4))/sqrt(size(RT,1)));
bar([7 8 9 10], mean(RT(:,5:8)), 'r');
errorbar(mean(RT(:,5:8)),std(RT(:,5:8))/sqrt(size(RT,1)));
ylim([400 550]);
subplot(1,2,2);
bar([1 2 3 4], mean(MT(:,1:4)), 'b');
hold on;
errorbar(mean(MT(:,1:4)), std(MT(:,1:4))/sqrt(size(MT,1)));
bar([7 8 9 10], mean(MT(:,5:8)), 'r');
errorbar(mean(MT(:,5:8)),std(MT(:,5:8))/sqrt(size(MT,1)));
ylim([1000 1300]);
help errorbar
size(MT)
T.RT = reshape(RT,prod(size(RT)),1);
T.MT = reshape(MT,prod(size(MT)),1);
T.seqtype = [ones(48,1);2*ones(48,1)];
T.reptype = reshape(repType,12,1),prod(size(RT)),1);
figure;
set(gcf,'color','w');
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Repetition effects';
x_coord = barplot([T.seqtyp],T.RT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0.0 0],'barwidth',1,...'leg',legend_text);
x_coord = barplot([T.seqtype],T.RT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0.0 0],'barwidth',1,...'leg',legend_text);
figure;
set(gcf,'color','w');
subplot(1,2,1)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.RT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0.0 0],'barwidth',1,...'leg',legend_text);

```

```
ylim(300 520);
subplot(1,2,2)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
ylim(1000 1300);
T.RT = reshape(RT,prod(size(RT)),1);
T.MT = reshape(MT,prod(size(MT)),1);
T.seqtype = [ones(48,1);2*ones(48,1)];
T.reptype = reshape(repmat(repType,12,1),prod(size(RT)),1);
figure;
set(gcf,'color','w');
subplot(1,2,1)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.RT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
ylim([300 520]);
subplot(1,2,2)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
ylim([1000 1300]);
figure;
set(gcf,'color','w');
subplot(1,2,1)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.RT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
% ylim([400 520]);
set(gca,'YLim',[300 520],'TickLength',[0.01 0.01],'YTick',[300:100:500],...
'XTick',(x_coord(2:4:end)+x_coord(3:2:end))/2,'XTickLabel',ROI_name, ...
'XLim',[x_coord(1)-1.2 x_coord(end)+1.2],'FontSize',12,'LineWidth',1,'FontName', ...
'Arial');
ylabel('Reaction time (ms)', 'FontSize',12,'FontName','Arial');
subplot(1,2,2)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
% title_text = 'Reaction time';
x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
% ylim([1100 1300]);
set(gca,'YLim',[1000 1300],'TickLength',[0.01 0.01],'YTick',[1100:100:1300],...
'XTick',(x_coord(2:4:end)+x_coord(3:2:end))/2,'XTickLabel',ROI_name, ...
'XLim',[x_coord(1)-1.2 x_coord(end)+1.2],'FontSize',12,'LineWidth',1,'FontName', ...
'Arial');
ylabel('Movement time (ms)', 'FontSize',12,'FontName','Arial');
x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1,....
'leg',legend_text);
subplot(1,2,2)
legend_text = {'NRep','Seq-Rep','Cue-Rep','Both-Rep'};
% title_text = 'Reaction time';
```

```

x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1, ...
'leg',legend_text);
% ylim([1100 1300]);
set(gca,'YLim',[1000 1300],'TickLength',[0.01 0.01],'YTick',[1100:100:1300],...
'XTick',(x_coord(2:4:end)+x_coord(3:2:end))/2,'XTickLabel',ROI_name, ...
'XLim',[x_coord(1)-1.2 x_coord(end)+1.2],'FontSize',12,'LineWidth',1,'FontName', ...
'Arial');
ylabel('Movement time (ms)', 'FontSize',12,'FontName','Arial');
Matrix dimensions must agree.
x_coord = barplot([T.seqtype],T.MT,'split',[T.reptype],'CAT',CAT,'gapwidth',[0.8 0. 0
0],'barwidth',1, ...
'leg',legend_text);
[RT, MT] = calc_rt_mt
close all
length(x_coord(2:4:end)\ 
[RT, MT] = calc_rt_mt
signrank(MT(:,2)-MT(:,1))
signrank(RT(:,2)-RT(:,1))
signrank(MT(:,6)-MT(:,5))
mean(MT)
signrank(MT(:,3)-MT(:,4))
signrank(MT(:,7)-MT(:,8))
signrank(MT(:,1)-MT(:,4))
signrank(MT(:,5)-MT(:,8))
mean(MT)
signrank(RT(:,5)-RT(:,8))
signrank(RT(:,1)-RT(:,4))
signrank(RT(:,1)-RT(:,2))
signrank(RT(:,3)-RT(:,4))
signrank(RT(:,5)-RT(:,6))
signrank(RT(:,7)-RT(:,8))
mean(RT)
for i=1:4 p(i) = signrank(MT(:,i)-MT(:,i+4));
end
P
for i=1:4 p(i) = signrank(RT(:,i)-RT(:,i+4));
end
P
P
signrank(RT(:,5)-RT(:,7))
signrank(RT(:,6)-RT(:,7))
signrank(RT(:,6)-RT(:,8))
anal_rdm
for P(i) = signrank(diss_rep_across(i,:));end
for i=1:11 P(i) = signrank(diss_rep_across(i,:)); end
P
for i=1:11 P(i) = signrank(diss_rep_within_L(i,:)); end
P
for i=1:11 P(i) = signrank(diss_rep_within_S(i,:)); end
P
for i=1:11 P(i) = signrank(diss_rep_across-diss_nrep_across(i,:)); end
for i=1:11 P(i) = signrank(diss_rep_across(i,:)-diss_nrep_across(i,:)); end
P
for i=1:11 P(i) = ttest(diss_rep_across(i,:)-diss_nrep_across(i,:)); end
help ttest
for i=1:11 P(i) = ttest(diss_rep_across(i,:)-diss_nrep_across(i,:),1,'paired'); end
for i=1:11 P(i) = ttest(diss_rep_across(i,:),diss_nrep_across(i,:),2,'paired'); end
P
for i=1:11 [tval(i), pval(i)] = ttest(diss_rep_across(i,:),diss_nrep_across(i,:), ...

```

```
2,'paired'); end
tval
pval
anal_rdm
edit anal_rs
k=1;for s=[1:3 5 6 8:14] load(fullfile('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI',sprintf('S%02d_hrf_fit_glm0.mat',s)));params(k,:)=params_after;k=k+1;end
params
edit spm_hrf
hrf = spm_hrf(1/16, [params(1,:) 1 1 6 0 32],16);
figure;plot(hrf)
figure;plot(linspace(0,32,length(hrf)),hrf)
for i=1:12 hrf(i,:) = spm_hrf(1/16, [params(i,:) 1 1 6 0 32],16);end
clear hrf
for i=1:12 hrf(i,:) = spm_hrf(1/16, [params(i,:) 1 1 6 0 32],16);end
figure;plot(hrf')
figure;plot(linspace(0,32,length(hrf)),hrf')
figure;plot(linspace(0,32,length(hrf)),hrf');set(gcf,'color','w');xlabel('Time(sec)', 'Fontsize', 15);
set(gcf,'box','off')
figure;plot(linspace(0,32,length(hrf)),hrf');set(gcf,'color','w');xlabel('Time(sec)', 'Fontsize', 15);
sss_imana('HRF:fit','sn',1)
sss_imana('HRF:fit','sn',1)
load(fullfile(baseDir,roiDir,sprintf('S%0.2d_glm%d_hrf.mat',s,glm))); % load T
T = getrow(T,T.region==roi);
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','r--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
title(sprintf('ROI: %s',regname{roi}));
drawline(0);
T = getrow(T,T.region==r);
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','r--',...
'split',[T.type],'subset',subset,...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
title(sprintf('ROI: %s',regname{roi}));
pre = 10;
% post = 30;
% Select a specific subset of things to plot
if glm==2
T.type(find(T.type==6))=5; %% BothRep
T.type(find(T.type==4))=3; %% CueOnlyRep
subset = find(T.type==3 | T.type==5);
elseif glm==0
subset = find(T.type==1);
end
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','r--',...
```

```
'split',[T.type],'subset',subset, ...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
title(sprintf('ROI: %s',regname{roi}));
drawline(0);
size([-pre:post])
size(T.y_hat)
pre
post
post = 20
pre = 10;
% post = 30;
% Select a specific subset of things to plot
if glm==2
T.type(find(T.type==6))=5; %% BothRep
T.type(find(T.type==4))=3; %% CueOnlyRep
subset = find(T.type==3 | T.type==5);
elseif glm==0
subset = find(T.type==1);
end
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','r--',...
'split',[T.type],'subset',subset, ...
'linewidth',3); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
title(sprintf('ROI: %s',regname{roi}));
drawline(0);
help traceplot
hold on;
traceplot([-pre:post],T.y_hat,'linestyle','--',...
'split',[T.type],'subset',subset, ...
'linewidth',3,'linecolor','r'); % ,
drawline([-8 8 16],'dir','vert','linestyle','--');
drawline([0],'dir','horz','linestyle','--');
hold off;
xlabel('TR');
ylabel('activation');
title(sprintf('ROI: %s',regname{roi}));
drawline(0);
sss_imana('HRF:fit','sn',1)
params
sss_imana('HRF:fit','sn',1)
set(gcf,'color','w');
sss_imana('HRF:fit','sn',12)
sss_imana('HRF:fit','sn',2)
params
sss_imana('HRF:fit','sn',2)
figure;plot(linspace(0,32,length(hrf)),hrf');set(gcf,'color','w');xlabel('Time<br>(sec)', 'Fontsize',15);hold on;temp = spm_hrf(1/16,[6 16 1 1 6 0 32],16);plot(linspace(0,32,length(temp)),temp,'k','Linewidth',2);
figure;plot(linspace(0,32,length(hrf)),hrf');set(gcf,'color','w');xlabel('Time<br>(sec)', 'Fontsize',15);hold on;temp = spm_hrf(1/16,[6 16 1 1 6 0 32],16);plot(linspace(0,32,length(temp)),temp,'k','Linewidth',2);
```

```
(0,32,length(temp)),temp,'k','LineWidth',2);
sss_imana('HRF:ROI_hrf_plot','sn',2,'glm',2);
sss_imana('HRF:ROI_hrf_plot','sn',2,'glm',2,'post',8);
figure;for r=1:8 subplot(2,4,r); sss_imana('HRF:ROI_hrf_plot','sn',2,'glm',2,'post',8,'roi',r);end
figure;for r=1:8 subplot(2,4,r); sss_imana('HRF:ROI_hrf_get','sn',2,'glm',2,'post',8);%
sss_imana('HRF:ROI_hrf_plot','sn',2,'glm',2,'post',8,'roi',r);end
sss_imana('HRF:ROI_hrf_get','sn',2,'glm',2,'post',8); figure;for r=1:8 subplot(2,4,r);%
sss_imana('HRF:ROI_hrf_plot','sn',2,'glm',2,'post',8,'roi',r);end
%-- 2024-07-18 03:01:53 PM --%
sss_add_path
anal_rdm
addpath '/srv/diedrichsen/data/SeqSpatialSupp_fMRI/patterns'
anal_rdm
edit anal_rdm
anal_rdm
edit anal_rdm
anal_rdm
edit spm_hrf
test2
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2);
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',2,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',5,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_get','sn',6,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',5,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_get','sn',8,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',5,'glm',2,'post',10);
close all
sss_imana('HRF:ROI_hrf_get','sn',8,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',6,'roi',5,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',5,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',6,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_get','sn',14,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',14,'roi',4,'glm',2,'post',10);
edit sss_imana
load('SPM.mat');
sss_imana('HRF:ROI_hrf_plot','sn',6,'roi',4,'glm',2,'post',10);
R
glm = 2
sn = 8
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
R.cond
size(R.cond)
R.isMotor
sss_imana('GLM:contrast','sn',8,'glm',5);
sss_imana('GLM:tcontrast','sn',8,'glm',5);
figure;plot(optC(1,:))
temp
R.con
R.cond
R
```

```
R.con
R.cond
glm
R1 = construct_dsgmat(sprintf('S%02d',sn),2);
R2 = construct_dsgmat(sprintf('R%02d',sn),2);
R = combine_behavdata(R1,R2);
for c=1:8 temp = zeros(nRun, nTr); temp(R.cond==c)=1; optC(c,:) = calc_optWeights2(
temp,X);end
figure;plot(optC(1,:))
for i=1:length(contrast_names)
SPM.xCon(i) = spm_FcUtil('Set', contrast_names{i}, 'T', 'c', optC(i,:)', SPM.xx.xxKxs);
end
SPM = spm_contrasts(SPM,1:length(SPM.xCon));
save('SPM.mat', 'SPM', '-v7.3');
SPM = rmfield(SPM,'xVi'); % 'xVi' take up a lot of space and slows down code!
save(fullfile(baseDir, sprintf(glmDir, glm)), sprintf('S%02d', sn), 'SPM_light.mat'), 
'SPM')
% rename contrast images and spmT images
conName = {'con','spmT'};
for i = 1:length(SPM.xCon)
for n=1
% for n = 1:numel(conName)
oldName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%2.4d.nii', conName{n},i));
newName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%s.nii', conName{n},SPM.xCon(i).name));
movefile(oldName, newName);
end % conditions (n, conName: con and spmT)
end % i (contrasts)
oldfilename
newName
oldname
oldNamei
i
n
for i = 1:length(SPM.xCon)
for n=1
% for n = 1:numel(conName)
oldName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%2.4d.nii', conName{n},i));
newName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%s.nii', conName{n},SPM.xCon(i).name));
movefile(oldName, newName);
end % conditions (n, conName: con and spmT)
end % i (contrasts)
conName = {'con','spmT'};
load('SPM.mat');
sss_imana('GLM:tcontrast','sn',8,'glm',5);
glm
glm = 5
sn = 8
conName = {'con','spmT'};
for i = 1:length(SPM.xCon)
for n=1
% for n = 1:numel(conName)
oldName = fullfile(baseDir, sprintf(glmDir, 1), sprintf('S%02d', sn), sprintf('%s_%2.4d.nii', conName{n},i));
newName = fullfile(baseDir, sprintf(glmDir, glm), sprintf('S%02d', sn), sprintf('%s_%s.nii', conName{n},SPM.xCon(i).name));
movefile(oldName, newName);
```

```
end % conditions (n, conName: con and spmT)
end % i (contrasts)
sss_imana('GLM:psc','sn',s,'glm',5);
s=8
sss_imana('GLM:psc','sn',s,'glm',5);
sss_imana('WB:vol2surf_indiv','sn',8,'glm',5,'map','con');
fname
fnames
fnames{1}
sss_imana('GLM:tcontrast','sn',8,'glm',5);
%-- 2024-08-19 11:30:35 PM --%
edit sss_imana
edit test2
edit sss_imana
sss_add_path
edit test
test2
s=6
params_after = [6 16];
if s==11
nTRs = [410*ones(1,10) 401 406 410 404 410 410 385];
else
nTRs = [410*ones(1,16) 385];
end
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs,'href_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',2,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',2,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('GLM:tcontrast','sn',s,'glm',2,'opt',0);
oldName
sss_imana('GLM:tcontrast','sn',s,'glm',2,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',[1:8],'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',4,'glm',2,'post',10);
s=8
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs,'href_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',2,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',2,'opt',0);
sss_imana('GLM:psc','sn',s,'glm',2);
sss_imana('WB:vol2surf_indiv','sn',s,'glm',2,'map','psc');
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',4,'glm',2,'post',10);
sss_imana('HRF:fit','sn',8);
sss_imana('GLM:design','sn',s,'glm',0,'nTR',nTRs,'href_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',0,'opt',0);
edit test
nTRs = [410*ones(1,10) 401 406 410 404 410 410 385]; % For S11
nTRs = [410*ones(1,16) 385]; % for S09
sss_imana('GLM:design','sn',s,'glm',0,'nTR',nTRs,'href_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',0,'opt',0);
nTRs
sss_imana('GLM:design','sn',s,'glm',0,'nTR',nTRs(end));
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
```

```
sss_imana('GLM:tcontrast','sn',s,'glm',0,'opt',0);
sss_imana('HRF:fit','sn',8);
edit spmj_fit_hrfparams.m
edit construct_dsgmat
sss_imana('GLM:design','sn',s,'glm',0,'nTR',nTRs(end));
sss_imana('GLM:estimate','sn',s,'glm',0,'fig',0);
sss_imana('GLM:tcontrast','sn',s,'glm',0,'opt',0);
sss_imana('HRF:fit','sn',8);
sss_imana('HRF:fit','sn',8);
[p_opt(1:2)' 1 1 6 p_opt(3:4)']
p_opt
sss_imana('HRF:fit','sn',8);
edit spm_hrf
sss_imana('HRF:fit','sn',8);
params_after = [9.9982 17.2443 0.3162 0.3703 0.9201 -4.4373 31.9866];
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs(end),'hrf_params',params_after);
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',2,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',s,
bf = spm_hrf(
load('SPM_light.mat')
SPM.xBF
params_after
bf = spm_hrf(SPM.xx.RT/16, SPM.xBF.params,16);
SPM.xx
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_0/S08/SPM.mat')
SPM.xx.RT
SPM.xx
load('SPM_light.mat')
bf = spm_hrf(SPM.xy.RT/16, SPM.xBF.params,16);
figure;plot(bf);
bf2 = spm_hrf(SPM.xy.RT/16, SPM.xBF.params_after,16);
bf2 = spm_hrf(SPM.xy.RT/16, params_after,16);
figure;plot(bf);hold on;plot(bf2,'r')
SPM.xB F
SPM.xBF
figure;plot(SPM.xBF.bf)
load('SPM.mat')
SPM.xBF
figure;plot(SPM.xBF.bf)
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',4,'glm',2,'post',10);
edit spm_default
edit spm_defaults
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',2,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',s,
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',4,'glm',2,'post',10);
sss_imana('GLM:design','sn',s,'glm',2,'nTR',nTRs,'hrf_params',params_after);
sss_imana('GLM:estimate','sn',s,'glm',2,'fig',0);
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',s,'roi',4,'glm',2,'post',10);
R
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S08_SSS_regions.mat')
SPM
hanul2001@hanyang.ac.kr
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
SPM.VResMS
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
```

```
V
A(:,i)=spm_sample_vol(V(i),X,Y,Z,interp); % Sampling of volume
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
R
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R{4});
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R.R);
R
sss_imana('HRF:ROI_hrf_get','sn',s,'glm',2,'post',10);
R
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
y_raw
size(y_raw)
sum(nTRs)
410*16+385
410*16
figure;plot(y_raw(:,1))
figure;plot(y_raw(1:410,1))
figure;plot(y_adj(1:410,1))
figure;plot(y_adj(:,1))
figure;plot(y_adj(1:410,1))
edit region_getts
close all
figure;plot(y_adj(1:410,1));hold on;plot(y_raw(1:410,1),'r');plot(y_hat(1:410,1),'g')
figure;plot(y_adj(1:410,1));hold on;plot(y_hat(1:410,1),'g')
figure;plot(y_adj(1:820,1));hold on;plot(y_hat(1:820,1),'g')
close all
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/ROI/S06_SSS_regions.mat')
load('/srv/diedrichsen/data/SeqSpatialSupp_fMRI/glm_2_dur1/S06/SPM.mat')
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
SPM
[y_raw, y_adj, y_hat, y_res,B] = region_getts(SPM,R);
sss_imana('HRF:ROI_hrf_get','sn',6,'glm',2,'post',10);
figure;plot(y_raw(:,1))
SPM
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',2,'post',10);
figure;plot(y_raw(:,1))
figure;plot(y_adj(:,1))
figure;plot(y_adj(1:1000,1));hold on;plot(y_hat,'r');
figure;plot(y_adj(1:1000,1));hold on;plot(y_hat(1:1000,1),'r');
figure;plot(y_adj(1:1000,4));hold on;plot(y_hat(1:1000,4),'r');
sss_imana('HRF:ROI_hrf_get','sn',1,'glm',0,'post',10);
size(y_raw)
figure;plot(y_adj(:,1));hold on;plot(y_hat(:,1),'r')
figure;plot(y_raw(:,1))
figure;plot(y_adj(:,4));hold on;plot(y_hat(:,4),'r')
figure;plot(y_adj(:,5));hold on;plot(y_hat(:,5),'r')
sss_imana('HRF:ROI_hrf_get','sn',8,'glm',2,'post',20);
figure;plot(y_adj(1:1000,5));hold on;plot(y_hat(1:1000,5),'r')
sss_imana('HRF:ROI_hrf_get','sn',3,'glm',2,'post',20);
figure;plot(y_adj(1:1000,5));hold on;plot(y_hat(1:1000,5),'r')
SPM
SPM.xx
figure;imagesc(SPM.xx.X)
figure;for i=1:8 plot(SPM.xx.X(:,i));hold on;end
figure;for i=1:8 plot(SPM.xx.X(:,i));hold on;end
figure;for i=1:8 plot(SPM.xx.X(1:410,i));hold on;end
figure;plot(y_adj(1:410,5));hold on;plot(y_hat(1:410,5),'r')
figure;for i=1:9 plot(SPM.xx.X(1:410,i));hold on;end
figure;plot(y_adj(:,5))
figure;plot(y_adj(1000:2000,5))
```

3-Feb-2025

9:04:45 PM

```
sss_imana('HRF:ROI_hrf_plot','sn',3,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',1,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',2,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',5,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',5,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',2,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',9,'roi',4,'glm',2,'post',20);
close all
sss_imana('HRF:ROI_hrf_plot','sn',11,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',12,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',13,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',4,'glm',2,'post',20);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',4,'glm',2,'post',10);
sss_imana('HRF:ROI_hrf_plot','sn',8,'roi',5,'glm',2,'post',10);
%-- 2024-09-23 07:45:46 AM --%
add_path
sss_add_path
edit sss_imana
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
sn = 1;
glm = 1
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
R
R.cond
glm = 2
R1 = construct_dsgmat(sprintf('S%02d',sn),glm);
R2 = construct_dsgmat(sprintf('R%02d',sn),glm);
R = combine_behavdata(R1,R2);
help spm_imcalc_ui
R
R.cond
edit construct_dsgmat
help spm_imcalc_ui
sss_add_path
help case
%-- 2024-10-07 09:48:27 PM --%
sss_add_path
edit sss_imana
sss_imana('HRF:fit',8,4,'gamma');
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','gamma');
size(Yres)
fitMethod = 'library';
[SPMf, Yhat, Yres, p_opt] = spmj_fit_hrfparams(SPM, data, fitMethod); % 'fit',[1,2]
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
[SPMf, Yhat, Yres, p_opt] = spmj_fit_hrfparams(SPM, data, fitMethod); % 'fit',[1,2]
size(Y)
figure;plot(Y(:,1))
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','gamma');
load('SPM.mat')
SPM.Sess
SPM.Sess.U
SPM.Sess(1).U
SPM.Sess(1).U.ons
SPM.Sess(1).U.dur
SPM.nscan
```

```
SPM.Sess(10)
SPM.nscan
SPM.Sess(1).u
SPM.Sess(1).U
length(ans)
length(SPM.Sess(1).U)
help spm_get_ons
help fminnnncon
help fmincon
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
which fMRI_design_changeBF
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p0
fMRI_design_changeBF(SPM,p0(1),p0(2))
edit fMRI_design_changeBF
fMRI_design_changeBF(SPM,p0(1),p0(2))
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
err
p_opt
idx
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p_opt
min(err)
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
min(err)
p_opt
p_opt
help fmincon
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
opt_p
p_opt
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p_opt
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
help fminsearch
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p_opt
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p_opt
sss_imana('HRF:fit','sn',8,'regN',4,'fitMethod','library');
p_opt
err
min(err)
help fminsearch
help fmincon
p_opt
sss_imana('HRF:fit','sn',8,'regN',[1:7],'fitMethod','library');
p_opt
idx
min(err)
err
sss_imana('HRF:fit','sn',8,'regN',[1:7],'fitMethod','gamma');
a = [1:10];
a(1:4)
a(1:4)
p_hrf = spm_get_defaults('stats.fmri.hrf');
p_hrf
sss_imana('HRF:fit','sn',8,'regN',[1:7],'fitMethod','gamma');
help nargin
sss_imana('HRF:fit','sn',8,'regN',[1:7],'fitMethod','gamma');
sss_imana('HRF:fit','sn',8,'regN',[1:7],'fitMethod','library');
```

```
sss_imana('HRF:fit','sn',3,'regN',[1:7],'fitMethod','library');
sss_imana('HRF:fit','sn',2,'regN',[1:7],'fitMethod','library');
sss_imana('ROI_hrf_plot','sn',2,'roi',4,'glm',2,'post',10);
edit proj
%-- 2025-02-03 09:27:56 AM --%
sss_imana('FUNC:make_fmap','sn',1);
%-- 2025-02-03 08:44:43 PM --%
sss_add_path
```