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1
2      HIGH LEVEL
3 /Users/dudmanj/subversion_working_copies/TONIC_v2
4
5 AllFilesInDirScript.m
6
7 ConcatPopDataScript.m
8
9 CreateReadme.m
10  SCRIPT DETAILS: A script to collect help descriptions from a directory (with subdirectories) of
11  m-files.
12  DataPrepForVisualization.m
13
14  ExportScript.m
15
16  ExtractPopulationDataScript.m
17
18  HeadFixedBehaviorLoadingScript.m
19
20  LoadCSVdataScript.m
21
22  README.m
23
24  RunTONIC.m
25
26  ScriptTMP.m
27
28  ScriptToAnalyzeSimulRecordedUnits.m
29
30  ScriptToCreateAllAlignedEpochs.m
31
32  TNC_CheckImageAlignmentWrapper.m
33
34  TNC_EventExtractImage.m
35  FUNCTION DETAILS: This function goes through a single channel of filtered recording data and looks
36  for threshold crossings. A second stage then tests these threshold crossings according to a template
37  matching heuristic to try to classify significant events.
38  TNC_MoverToStruct.m
39  FUNCTION DETAILS: High level function that builds a single structure containing a standard set of
40  analyses for every unit
41  TNC_PhotoStimToStruct.m
42  FUNCTION DETAILS: High level function that builds a single structure containing a standard set of
43  analyses for every unit
44  TNC_ROIpicker.m
45  FUNCTION DETAILS: This function goes through a single channel of filtered recording data and looks
46  for threshold crossings. A second stage then tests these threshold crossings according to a template
47  matching heuristic to try to classify significant events.
48  TNC_ReadToStdRecStruct.m
49  FUNCTION DETAILS: High level function that builds a single structure containing a standard set of
50  analyses for every unit
51  TNC_S_ApproachAnalysis.m
52
53  TNC_S_LightStimScript.m
54  SCRIPT OVERVIEW: Analysis of photostimulation during extracellular recording
55  TbyTScript.m
56
57  TestCompressionScript.m
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58
59 WalkAllDirsApplyingAnalysis.m
60
61
62
63 /Users/dudmanj/subversion_working_copies/TONIC_v2/AlignTimeSeries
64
65 TNC_AlignRasters.m
66 FUNCTION DETAILS: Using a set of timestamps provided in ALIGNSTAMPS creates a matrix of DATA
67 vectors that span -WINDOW(1,1) to +WINDOW(1,2) around each timestamp.
68 TNC_AlignedMatrix.m
69 FUNCTION DETAILS: For each channel create a field in the structure 'alignedMatrix' that has an
70 matrix of SPIKETIMES aligned to the list of EVENTIMES passed in and that extends from -WINDOW(1,1)
71 to WINDOW(1,2) with SAMPLING precision
72 TNC_SmoothAlignedRaster.m
73
74
75
76
77 /Users/dudmanj/subversion_working_copies/TONIC_v2/AnalysisScripts
78
79 EXT_FinalScript.m
80 COMPLETE EXTINCTION PAPER ANALYSIS SEQUENCE Figure 1: Example of the training paradigm,
81 recording schematic, behavioral control over learning and extinction, cs responses, latency
82 determination, exemplar responses Figure 2: Extinction cs responses, contrast responses, example
83 recording sessions, response amplitude scatter plot, response amplitude as a function of latency
84 Figure 3: Example simultaneous recording, **comparison between extinction cells and dopamine
85 cells**, comparison between extinction cells and dopamine cells and behavior
86 TNC_S_ApproachAnalysis.m
87
88 TNC_S_BatchSSP.m
89
90 TNC_S_CycleThruFilesForLFP.m
91
92 TNC_S_ExtractReachingFromAllFiles.m
93
94 TNC_S_LightStimScript.m
95 SCRIPT OVERVIEW: Analysis of photostimulation during extracellular recording
96 TNC_S_LoadAllNexFiles.m
97
98 TNC_S_LoadOpenFieldData.m
99 PARAMETERS OF ANALYSIS Create the filename list from the current directory fileDirectory =
100 'C:\Users\babita\Documents\HHMI\Mitopark\Open Field\MP1\' fileDirectory =
101 '/Users/dudmanj/Documents/Work/Janelia/
102 TNC_S_MoverBehaviorExtract.m
103 TNC
104 TNC_S_MoverTaskAnalysis.m
105
106 TNC_S_OpSigScripts.m
107 TNC
108 TNC_S_RivetsPaper.m
109 TNC
110 TNC_S_STFTIfpScript.m
111
112 TNC_S_ScanDataFromCurrentDirectory.m
113
114 TNC_S_SortSingleSession.m
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115
116 TNC_S_StimResponse.m
117   FUNCTION DETAILS: a script to run through the set of analysis routines to examine the evoked field
118 potential response to stimulation. This script will operate on whatever data is stored in the
119 structure "data". To use with multiple data files it is recommended that one loads as many
120 structures into memory as desired and stores individual data structures as "data" for the purpose of
121 executing the script. It will overwrite variables however so one should be careful.
122 TNC_S_eLFPpaper.m
123   TNC
124 TNC_S_eLFPpaper1.m
125   TNC
126 TNC_S_eLFPpaper2.m
127   TNC
128
129
130
131 /Users/dudmanj/subversion_working_copies/TONIC_v2/BehaviorHeadStage
132
133 TNC_BHS_ApproachTrajectories.m
134   Script for analysis of behavior headstage data: TNC
135
136
137
138
139 /Users/dudmanj/subversion_working_copies/TONIC_v2/CreateFunctions
140
141 TNC_CreateCausalKernel.m
142
143 TNC_CreateGaussian.m
144   FUNCTION DETAILS:
145 TNC_CreateRBColormap.m
146   FUNCTION DETAILS: Simple utility to create a RGB style color map
147 TNC_CreateReMapMatrix.m
148   FUNCTION DETAILS: Create a matrix of correct channel indexes in sequence. Using this function a
149 user can generate an ordered list of remappings that can be used in visualization functions.
150
151
152
153 /Users/dudmanj/subversion_working_copies/TONIC_v2/DataLoading
154
155 TNC_BuildSegsFromMemory.m
156   FUNCTION DETAILS: This function goes through a list of events and retrieves windowed segments from
157 continuous recordings already loaded into memory (generally this is designed to work for smaller
158 file sizes).
159 TNC_ConvertSortedNEVtoDDS.m
160   FUNCTION DETAILS: Convert an NEV file with sorted spikes to the DudmanLabDataStructure (DDS)
161 TNC_ConvertSortedNEXtoDDS.m
162   FUNCTION DETAILS: Convert an NEV file with sorted spikes to the DudmanLabDataStructure (DDS)
163 TNC_ConvertTSDtoPopData.m
164
165 TNC_ExtractContBehavData.m
166
167 TNC_GetDigitalStampsNEX.m
168   FUNCTION DETAILS: Digital stamps need to be extracted somewhat differently from the nex and nev
169 files. This is a utility function to assist with that.
170 TNC_LoadData.m
171   FUNCTION DETAILS: Function that loads multiple data formats into TONIC; Can load: Blackrock, MAT
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172 structures; FUTURE SUPPORT: Neuralynx, Plexon?, APiG, NeuroExplorer, OFS
173 TNC_PackBlackrockSession.m
174   FUNCTION DETAILS: Load and pack a given session of Blackrock Data into a single standard structure
175   organization
176 TNC_ReadContDataSeg.m
177   FUNCTION DETAILS: grabs segments of continuous data from large multichannel continuous recording
178   data
179 TNC_ReadSeqHeader.m
180   [seq
181 TNC_ReadSeqImages.m
182   seq
183 openNEV.m
184
185 openNSx.m
186
187 parseCommand.m
188
189 readNexFile.m
190
191
192
193
194 /Users/dudmanj/subversion_working_copies/TONIC_v2/DataWriting
195
196 TNC_CompressImageArray.m
197
198 TNC_ExportMatToIgor.m
199
200 TNC_ExportRasterToIgor.m
201
202
203
204
205 /Users/dudmanj/subversion_working_copies/TONIC_v2/EventDetectionClassification
206
207 TNC_AddCluster.m
208
209 TNC_EventAlign.m
210   FUNCTION DETAILS: align detected events using interpolation to find the threshold crossing
211   accurately.
212 TNC_EventClean.m
213   FUNCTION DETAILS: a function that provides indices for identified events based upon a generated
214   heuristic function.
215 TNC_EventCluster.m
216   FUNCTION DETAILS: Performs the clustering (elsewhere called 'classification') step where
217   individual events are given integer ids as members of particular clusters. Further a confidence
218   value is also returned that provides a metric for the distance of each event from the center of the
219   cluster of which it is a member.
220 TNC_EventDetect.m
221
222 TNC_EventExtract.m
223
224 TNC_EventExtractME.m
225
226 TNC_EventHeuristic.m
227   FUNCTION DETAILS: test the thresholded event data for quality based upon a heuristic that examines
228   the spectral density of the events by projecting events onto a wavelet or sinc function.
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229 TNC\_EventQuant.m  
230 FUNCTION DETAILS: For a set of discrete events measure the "distance" between each event and a  
231 "target" waveform. Distances and targets are chosen to maximize the "clusterability" of the  
232 waveforms for subsequent steps. In many cases multiple targets and distance metrics should be used.  
233 See the help for details on supported targets and distance metrics.  
234 TNC\_EventQuantME.m  
235  
236 TNC\_EventQuantSE.m  
237  
238 TNC\_EventReconcile.m  
239 FUNCTION DETAILS: This function takes in events detected on individual channels and seeks to  
240 reconcile all events such that at any moment in time only a single event occurs on a given electrode  
241 grouping. The default behavior is to take the channel on which the event with the largest amplitude  
242 occurs as the 'reference time' for the event.  
243 TNC\_MergeClusters.m  
244  
245 TNC\_RmEvents.m  
246  
247 TNC\_SSPL\_ConvertNEVtoFeatures.m  
248  
249 TNC\_SSPL\_EventExtractME.m  
250 FUNCTION DETAILS: This function goes through a single channel of filtered recording data and looks  
251 for threshold crossings. A second stage then tests these threshold crossings according to a template  
252 matching heuristic to try to classify significant events.  
253 TNC\_SSPL\_EventQuantME.m  
254 FUNCTION DETAILS:  
255 TNC\_SSPL\_Features.m  
256  
257 TNC\_SSPL\_NevPreviewer.m  
258  
259 TNC\_SSPL\_Ns5Previewer.m  
260  
261 TNC\_SSPL\_SingleSite.m  
262  
263 TNC\_SSP\_ConvertNEVtoFeatures.m  
264  
265 TNC\_SSP\_ExtractFeatures.m  
266  
267 TNC\_SSP\_SingleSite.m  
268  
269 TNC\_SSPipe.m  
270  
271  
272  
273  
274  
275 /Users/dudmanj/subversion\_working\_copies/TONIC\_v2/ExtractFunctions  
276  
277 TNC\_ContTrigWins.m  
278  
279 TNC\_ExtTrigWins.m  
280  
281 TNC\_ExtractContTrigWinMUA.m  
282 Show MUA for a given electrode using ContTrigWin data DEPENDENCY: PRE-analyzed with TNC  
283 TNC\_ExtractImageAlignment.m  
284  
285 TNC\_ExtractMovement.m

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286 FUNCTION DETAILS: Simple function to try and extract movement in a compressed or uncompressed
287 image array loaded into memory.
288 TNC_ExtractNEV2IndChan.m
289
290 TNC_ExtractTrajectories.m
291 FUNCTION OVERVIEW: Extract arm movement trajectories from resistive analog sensor
292 TNC_FilterData.m
293 FUNCTION DETAILS: general utility to separate data into a pair of bandwidths for spike sorting and
294 continuous analysis. LowBand is 2-0.1k; HiBand: 0.7k-7k
295 TNC_ImgStackMode.m
296
297 wavefilter.m
298
299
300
301
302
303 /Users/dudmanj/subversion_working_copies/TONIC_v2/GaussianMixtureModel
304
305 TNC_GM_AlignClassLabels.m
306
307 TNC_GM_BestNumComponents.m
308
309 TNC_GM_CrossValidation.m
310
311 TNC_GM_ElectrodeCoordinates.m
312
313 TNC_GM_GaussMixLogLikelihood.m
314
315 TNC_GM_InitialGuess.m
316
317 TNC_GM_Means2XYZ.m
318
319 TNC_GM_MultiVarGauss.m
320
321 TNC_GM_RefineModelParameters.m
322
323 TNC_GM_SortSpikes.m
324
325 TNC_GM_SummarizeResults.m
326
327 TNC_GM_Triangulation.m
328
329 TNC_GM_UpdateNeuroCube.m
330
331
332
333
334 /Users/dudmanj/subversion_working_copies/TONIC_v2/HighPerformanceComputing
335
336 TNC_HPC_ExtractBestSolution.m
337
338 TNC_HPC_MergeMatFiles.m
339
340 TNC_HPC_ShowGMSolution.m
341
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343 |
344 |
345 | /Users/dudmanj/subversion_working_copies/TONIC_v2/NeuroCube
346 |
347 | Manual_neuron.m
348 |
349 | Rotate_coordinates.m
350 |
351 | Update_auto.m
352 |
353 | Update_neurons.m
354 |
355 | Update_plot.m
356 |
357 | Update_progress.m
358 |
359 | Update_text_boxes.m
360 |
361 | addpaths.m
362 |
363 | calculate_ampl_spike.m
364 |
365 | calculate_ampl_spike1.m
366 |
367 | calculate_ampl_spike2.m
368 |
369 | filledCircle.m
370 |
371 | filt_elec.m
372 |
373 | get_phi1.m
374 |
375 | neurocube.m
376 |
377 | normalize_spike_shape.m
378 |
379 | normalize_spike_shape2.m
380 |
381 | run_simulation.m
382 |
383 | test_read_text.m
384 |
385 |
386 |
387 |
388 | /Users/dudmanj/subversion_working_copies/TONIC_v2/ObjectOrientedProgramming
389 |
390 | TNC_OOP_FeatureExtractionInputParser.m
391 |
392 | TNC_OOP_SpikeSortingInputParser.m
393 |
394 | TNC_OOP_Spikes.m
395 |
396 |
397 |
398 |
399 | /Users/dudmanj/subversion_working_copies/TONIC_v2/Quantification
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400
401 TNC_BinAndMean.m
402
403 TNC_BoxcarAverage.m
404
405 TNC_CrossCorrFromTimesList.m
406
407 TNC_CrossCorrNormed.m
408
409 TNC_QuantCondProb.m
410 FUNCTION DETAILS: Function assesses the probability of detecting a given word (MERNUM-mer) prior
411 to a given condition (ACTUAL) in the dataset (DATAARRAY). Significance is assessed by comparing this
412 number of observations to SHUFFNUM random shufflings and resamplings of the data.
413 TNC_QuantISI.m
414 FUNCTION DETAILS: Calculate the properties of the interspike interval distribution. Includes:
415 calculation of instantaneous ISI, creation of histograms with linear and log spacing, projection
416 onto a classifier space, calculation of 1st moment properties
417 TNC_QuantMap.m
418 FUNCTION DETAILS: analysis of the autocorrelation (peaks, maximal amp, peak fwhm, peak spacing)
419 TNC_QuantPeak.m
420 FUNCTION DETAILS: input data must be a vector. From that, parameterized by the threshold, window,
421 and sign of slope this function extracts all peaks that it finds.
422 TNC_QuantRespClass.m
423 FUNCTION DETAILS: function implements the presumed method of a class called a 'responseclass'.
424 Idea is that you might derive some classification of responses based upon clustering, trial type,
425 etc. and mean statistics on these subsets can be calculated/extracted for plotting or further
426 analysis.
427 TNC_QuantSegmentedPSTH.m
428 FUNCTION DETAILS: function implements the presumed method of a class called a 'responseclass'.
429 Idea is that you might derive some classification of responses based upon clustering, trial type,
430 etc. and mean statistics on these subsets can be calculated/extracted for plotting or further
431 analysis.
432 TNC_QuantSpksPerTrial.m
433
434
435
436
437 /Users/dudmanj/subversion_working_copies/TONIC_v2/SpikeSortLOCAL
438
439 TNC_SS_AddCluster.m
440
441 TNC_SS_AddSeeds.m
442
443 TNC_SS_AutoCluster.m
444
445 TNC_SS_CalcClusterEllipse.m
446
447 TNC_SS_CreateSortStruct.m
448
449 TNC_SS_CropCluster.m
450
451 TNC_SS_DelCluster.m
452
453 TNC_SS_FindOptimalBoundary.m
454
455 TNC_SS_GUI.m
456 TNC
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457 TNC_SS_GrowClusterBounds.m
458
459 TNC_SS_LoadSortedIds.m
460
461 TNC_SS_PropClust.m
462
463 TNC_SS_SaveSortedIds.m
464
465 TNC_SS_UpdateClusterBoundaries.m
466
467 TNC_SS_UpdateClusterCenters.m
468
469 TNC_SS_UpdateGraphs.m
470
471 TNC_SS_WriteData.m
472
473
474
475
476 /Users/dudmanj/subversion_working_copies/TONIC_v2/SpikeSorterGUI
477
478 TNC_SS_AddCluster.m
479
480 TNC_SS_AddSeeds.m
481
482 TNC_SS_AutoCluster.m
483
484 TNC_SS_CalcClusterEllipse.m
485
486 TNC_SS_CreateSortStruct.m
487
488 TNC_SS_CropCluster.m
489
490 TNC_SS_DelCluster.m
491
492 TNC_SS_FindOptimalBoundary.m
493
494 TNC_SS_GUI.m
495 TNC
496 TNC_SS_GrowClusterBounds.m
497
498 TNC_SS_LoadSortedIds.m
499
500 TNC_SS_PropClust.m
501
502 TNC_SS_SaveSortedIds.m
503
504 TNC_SS_StoreAutoClustIds.m
505
506 TNC_SS_UpdateClusterBoundaries.m
507
508 TNC_SS_UpdateClusterCenters.m
509
510 TNC_SS_UpdateGraphs.m
511
512 TNC_SS_WriteData.m
513
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514 startup.m
515
516
517
518
519 /Users/dudmanj/subversion_working_copies/TONIC_v2/StandaloneWrappers
520
521 TNC_ExtractMovementWrapper.m
522   FUNCTION DETAILS: Wrapper to allow extraction of all movement data from an entire seq file through
523   a series of chunks that are assembled into one data structure.
524 TNC_VideoCompressWrapper.m
525
526
527
528
529 /Users/dudmanj/subversion_working_copies/TONIC_v2/TestScripts
530
531 hazardScript.m
532
533 plotSandbox.m
534
535 swcUtilities.m
536
537 testScript.m
538
539
540
541
542 /Users/dudmanj/subversion_working_copies/TONIC_v2/TrajectoryAnalysis
543
544 TNC_AlignTraj2d.m
545
546 TNC_BatchProcessMoverCSVdata.m
547
548 TNC_LeverReport.m
549
550 TNC_LoadOpenFieldCheapTracker.m
551   PARAMETERS OF ANALYSIS Create the filename list from the current directory fileDirectory =
552   'C:\Users\babita\Documents\HHMI\Mitopark\Open Field\MP1\' fileDirectory =
553   '/Users/dudmanj/Documents/Work/Janelia/
554 TNC_MoverBehaviorExtract.m
555
556 TNC_NewLeverTrajectoryAnalysis.m
557   FUNCTION DETAILS: Analysis of continuous position and velocity data acquired through the MOVER
558   behavior program.
559 TNC_OpenFieldHipp.m
560
561 TNC_OpenFieldReport.m
562
563 TNC_OpenFieldReportJustTrack.m
564
565 TNC_ReachVigorWindow.m
566
567
568
569
570 /Users/dudmanj/subversion_working_copies/TONIC_v2/Transforms
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571
572 TNC_ConvertContToEvent.m
573   FUNCTION DETAILS: event pulses are obtained from continuous recordings and stored as small
574   structures
575 TNC_ConvertScatterToMatrix.m
576   FUNCTION DETAILS: Use an X, Y vector pair of data and convert into an evenly sampled density
577   matrix
578
579
580
581 /Users/dudmanj/subversion_working_copies/TONIC_v2/VideoFunctions
582
583 TNC_ExtractAndCleanROI.m
584
585
586
587
588 /Users/dudmanj/subversion_working_copies/TONIC_v2/Visualization
589
590 TNC_AnimatePopVector.m
591
592 TNC_CustomRasterPlotter.m
593
594 TNC_DisplayExampleWaveforms.m
595
596 TNC_DisplayShank.m
597   FUNCTION DETAILS: Plots data from all electrodes on a given shank to the current axes
598   fileNameStr >> name of the ns5 file from which data is loaded    arrayType >> electrode array
599   type: 'NN'
600 TNC_EvolveContOverTime.m
601   FUNCTION DETAILS: function is designed to create a matrix of all recorded electrode channels per
602   time point. the time series of matrices are stored in the cell array "waveRep"
603 TNC_ExtractPopVector.m
604
605 TNC_FormatGraph.m
606
607 TNC_GetMeanData.m
608   FUNCTION DETAILS: Calculate the mean data from a passed cellArray containing matrices of repeated
609   observations (rows) of continuous time series data (each time point is a column). The function
610   returns an object that contains the mean data and a user-definable type of positive and negative
611   error vectors.
612 TNC_GetTemplate.m
613
614 TNC_GridCellReport.m
615   FUNCTION DETAILS:% simple function meant to generate a report of assorted properties from the
616   spikeMap structure that quantify the properties of the resulting response map.
617 TNC_MoverSessionPlotter.m
618
619 TNC_MyPrefSurfPlot.m
620
621 TNC_NormDataMat.m
622   FUNCTION DETAILS:
623 TNC_POP_AlignedRaster.m
624
625 TNC_POP_AllCrossCorr.m
626
627 TNC_POP_DimReduce.m
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628
629 TNC_PlotContour.m
630
631 TNC_PlotEachCh.m
632   FUNCTION DETAILS: Plotting of up to three data segments from each channel of a continuous
633 recording in a single matrix-style plot.
634 TNC_PlotHahnloserRaster.m
635
636 TNC_PlotNCTraces.m
637
638 TNC_PlotRaster.m
639
640 TNC_RemapElecPos.m
641   FUNCTION DETAILS: For a given style of array this function will remap electrode numbers into row
642 and column position on the silicon probe array. Together with row spacing and column spacing this
643 can be used to create physical maps of the electrode arrays or associated activity on the arrays
644 TNC_SpkFreqByPosition.m
645   FUNCTION DETAILS:
646 TNC_TrigPopPlotter.m
647
648 TNC_WatchAllChanEvolve.m
649   FUNCTION DETAILS: animates a cell array of matrices
650 arrow.m
651
652 calculateEllipse.m
653
654
655
656
```