The matlab scripts need psychtoolbox

November 14, 2023

This generates the figures from the raw data for this panel:

Graphical user interface, application

Description automatically generated

Y:\PROJECTS\MacaqueColorCategories\_test\MacaqueColorCategories\Outputs\Paper\Figures\working\F2\_CombinedMMResults\Code

**Run this file: F2a\_difficulty.m (matlab version 2021b)**

**Line 9 names a variable “combinedData” , that will either be a csv (line 16) or a mat (line 24).**

**These data are subsampled from the four animals such that each animal has (98104/4). The minimum number was set by Buster, all of his data were used. The subsampling was done by random selection without replacement. There was no attempt to ensure that the color space was uniformly sampled. The number of trials for each cue is saved for the four animals in the files NumTrialsPerColorPerMonkey.**

**Y:\PROJECTS\MacaqueColorCategories\_test\MacaqueColorCategories\Outputs\Paper\Figures\working\F2\_CombinedMMResults\Code**

**The .csv file and the .mat file are saved here (the .mat file is much bigger than the .csv file):**

**Y:\PROJECTS\MacaqueColorCategories\_test\MacaqueColorCategories\Data**

**The .csv structure:**

**Dirname=date&time of the session start. Each row is one trial. Cue is what was presented as cue. Chosen is what the animal picked. NaN=didn’t pick a choice (aborted); in the matlab version the NaNs are stripped out. Choices 1-4 are the four choice options in ascending order.**

**The .mat structure is different but has exactly the same content, just less efficiently stored.**

**The F2a\_difficulty.m file line 29 plots the psychometric function with the .mat version of the data, using the difficulty\_psychometric function. (that function is saved in the analysis folder: Y:\PROJECTS\MacaqueColorCategories\_test\MacaqueColorCategories\Analyses)**

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The reaction time for the trial and the spatial location of the cue and the choices, the memory time and the choice time, will be put in a files TBA. These data could be found in the causal globs folder and can be accessed through scripts here:

Y:\PROJECTS\CausalGlobs\analysis\analysis\_scripts

In the data folder:

Y:\PROJECTS\CausalGlobs\data

The raw data for each session can be found. The data for a given session were saved by kofiko every ~17trials saved in a session folder in the data folder (date/timename for folder); each session also saves a .mat and a .txt file; the .mat contain all the data collated for a given session.

In this folder: Y:\PROJECTS\CausalGlobs\analysis\preprocessing\_scripts

You will find a Kofiko\_params.csv that provides the key to the variables contained in the session .mat files. The easiest way to access session .mat files is here: Y:\PROJECTS\CausalGlobs\analysis



You can run this script and it will ask you to enter stuff in the command window. Actually it doesn’t, but Danny will draft a paragraph to say how you get the variables we care about for each trial from the raw data saved out for each session.

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**Run this file: F2bc\_CombinedMMResults.m (matlab version 2021b)**

This script is set up so it can work at various depths, from raw data to model outputs. From the raw data “fromPreProcessedData” is where you’d start. The script uses the .mat file; for the SI figure that plots up all the individual mixture model curves for each animal, this script wont work. Or something. Danny will work on it.