**Dual\_Task analysis scripts**

**Data manipulation:**

1. **Preprocessing** (specify Exp in script)
2. **Collectdata\_blockwise** (specify Exp in script)

**Plots:**

1. **Combined**
2. **Metacognition\_1** and **Metacognition\_2**
3. **SingleDualAnalysis…** (specify new colour map if n > 7)
4. **TrainingAnalysis…** (specify new colour (ie. ‘k’) if n > 7)
5. **Varplot\_1** and **Varplot\_2**

**barwitherr**

- "barwitherr" function, creates bar plots along with error bars

- Called in combined, metacog\_1, metacog\_2, varplot\_1 & varplot\_2 scripts

- Output: 'varargout', presumably the vector of line handles?

**calculate\_AUC**

- Short script, builds cumulative table and calculates d-prime and area under curve

- Called in metacog\_1, metacog\_2, preprocessing, and SingleDualAnalysisAcross scripts

- Output: dp, auc values

**collect\_confidence**

- Loads preprocessed data for Exp1/2 & creates matrices of all confidence ratings/responses/z-scores

- Called in SingleDualAnalysis scripts

- Output: confidence, z\_confidence, response

**collectdata\_blockwise**

- Saves combined data for each task for a single Exp from the *preprocessed* data files

- Self-contained, not called in anything

- Output: saves central\_data, peripheral\_data\_ & dual\_data (DT/PDT) for the noted experiment

**combined**

- Runs concat\_1/2 scripts and plots "individual confidence" on single/dual tasks

- Self-contained, not called in anything

- Output: confidence subplots for central & peripheral tasks for Exp1/2 + response correlation plot

**concat\_1**

- Concatenates *raw* data for all sessions in Exp1 (intensity, response & confidence)

- Called in combined, metacognition\_1, varplot\_1

- Output: 'Concat' struct and 'Files' (subjID/subjNo data)

**concat\_2**

- Concatenates *raw* data for all sessions in Exp2 (intensity, response & confidence)

- Called in combined, metacognition\_2, varplot\_2

- Output: 'Concat' struct and 'Files' as above

**herrorbar**

- Plots horizontal error bars

- Called in barwitherr, SingleDualAnalysis scripts

- Output: 'hh' vector of line handles

**metacognition\_1**

- Runs concat\_1 script and plots confidence vs. performance for single task, dual task + AUC plot for Exp1

- Self-contained, not called in anything

- Output: saves the following plots Exp1\_Conf\_vs\_Perf\_ST, Exp1\_Conf\_vs\_Perf\_DT, Exp1\_AUC

**metacognition\_2**

- Runs concat\_2 script and plots the same as above along with dual task w/ partial report for Exp2

- Self-contained, not called in anything

- Output: Exp2\_Conf\_vs\_Perf\_ST, Exp2\_Conf\_vs\_Perf\_DT, Exp2\_Conf\_vs\_Perf\_PDT, Exp2\_AUC

**preprocessing**

- Creates 'Data' structs for a given experiment for each participant specified in the script

- Self-contained, not called in anything

- Output: saves preprocessed data in ...preprocessed.mat under each participant

**SingleDualAnalysisAcross\_1**

- For Exp1: Loads blockwise data, runs collect\_confidence, and plots a bunch of stuff across subjects

- Self-contained, not called in anything

- Output: a bunch of across subjects confidence plots (correct, incorrect, all trials), performance + AUC

**SingleDualAnalysisAcross\_2**

- Same as above but for Exp2

- Includes plots for the dual task with partial report

**SingleDualAnalysisIndividual\_1**

- For Exp1: Loads blockwise data, collects performance data for each subject & plots for individual subj

- Self-contained, not called in anything

- Output: a bunch of individual subject plots for performance, confidence, and AUC

**SingleDualAnalysisIndividual\_2**

- Same as above but for Exp2

- Includes dual task with partial report

**subtightplot**

- "Adds ability to define the gap between neighbouring subplots"

- Called in a bunch of analysis scripts (metacognition\_1, SingleDualAnalysis files…)

- Output: 'h' which is a vector of axes handles should they be necessary

**TrainingAnalysisAcross\_1**

- For Exp1: Loads blockwise data and plots SOAs, confidence, AUC across subjects over blocks

- Self-contained, not called in anything

- Output: Exp1\_SOAs\_over\_blocks, Exp1\_Confidence\_over\_blocks, Exp1\_AUC\_over\_blocks

**TrainingAnalysisAcross\_2**

- For Exp2: same as above but dual task with partial report stuff is added

- Self-contained, not called in anything

- Output: Exp2\_SOAs\_over\_blocks, Exp2\_Confidence\_over\_blocks, Exp2\_AUC\_over\_blocks

**TrainingAnalysisIndividual\_1**

- For Exp1: loads clockwise data and plots similar to above over blocks but for single vs. dual task

- Self-contained, not called in anything

- Output: several but stuff like Exp1\_AUC\_over\_blocks\_DualTask

**TrainingAnalysisIndividual\_2**

- For Exp2: same as above but includes dual task with partial report stuff

- Self-contained, not called in anything

- Output: a bunch of stuff like Exp2\_AUC\_over\_blocks\_DualTaskPR

**varplot\_1**

- Runs concat\_1 and plots confidence and performance on single vs. dual task

- Self-contained, not called in anything

- Output: Exp1\_Trial\_by\_trial\_confidence, Exp1\_Mean\_Performance, Exp1\_Mean\_Confidence

**varplot\_2**

- Same as above but for concat\_2 and Exp2, obviously includes DualTask w/ partial report stuff

- Self-contained, not called in anything

- Output: Exp2\_Trial\_by\_trial\_confidence, Exp2\_Mean\_Performance, Exp2\_Mean\_Confidence