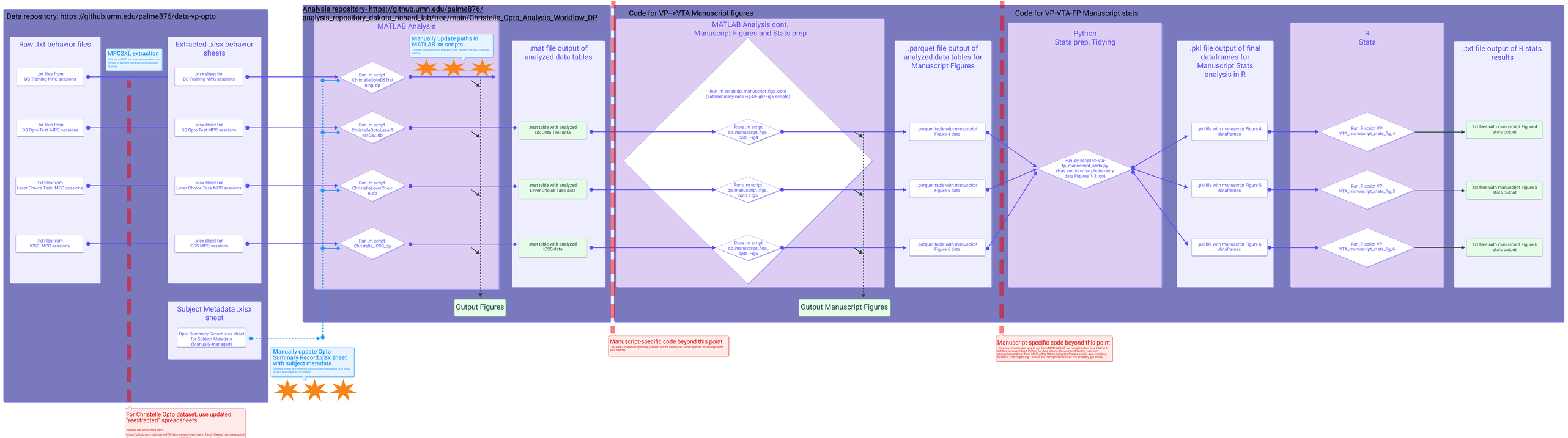
Data repository: https://github.umn.edu/palme876/data-vp-opto
Raw .txt behavior files
.txt files from DS Training MPC sessions
.txt files from DS Opto Test MPC sessions
.txt files from Lever Choice Task MPC sessions
.txt files from ICSS MPC sessions
MPC2XL extraction
-For each MPC set, use appropriate .rsm profile to extract data into spreadsheet format
Extracted .xlsx behavior sheets
.xlsx sheet for DS Training MPC sessions
.xlsx sheet for DS Opto Test MPC sessions
.xlsx sheet for Lever Choice Task MPC sessions
.xlsx sheet for ICSS MPC sessions
Subject Metadata .xlsx sheet
Opto Summary Record.xlsx sheet for Subject Metadata (Manually-managed)
Manually update Opto Summary Record.xlsx sheet with subject metadata
-Update sheet accordingly with subject metadata (e.g. viral group, histological exclusion)
For Christelle Opto dataset, use updated "reextracted" spreadsheets
-Sheets are within data repo:
https://github.umn.edu/palme876/data-vp-opto/tree/main/_Excel_Sheets/_dp_reextracted
-Raw data files have been fixed, but avoid MPC2XL reextraction if possible
Analysis repository- https://github.umn.edu/palme876/analysis_repository_dakota_richard_lab/tree/main/Christelle_Opto_Analysis_Workflow_DP
MATLAB Analysis
Manually update paths in MATLAB .m scripts
-Update paths to match where you stored the data on your device
Run .m script ChristelleOptoDSTraining_dp
Run .m script ChristelleOptoLaserTestDay_dp
Run .m script ChristelleLeverChoice_dp
Run .m script Christelle_ICSS_dp
.mat file output of analyzed data tables
.mat table with analyzed DS Opto Test data
.mat table with analyzed Lever Choice Task data
.mat table with analyzed ICSS data
Output Figures
Manuscript-specific code beyond this point
- VP-VTA-FP Manuscript code (should still be useful, but paper-specific so change to fit your needs)
Code for VP–>VTA Manuscript figures
MATLAB Analysis cont.
Manuscript Figures and Stats prep
Run .m script dp_manuscript_figs_opto (automatically runs Fig4/Fig5/Fig6 scripts)
Runs .m script dp_manuscript_figs_opto_Fig4
Runs .m script dp_manuscript_figs_opto_Fig5
Runs .m script dp_manuscript_figs_opto_Fig6
.parquet file output of analyzed data tables for Manuscript Figures
.parquet table with manuscript Figure 4 data
.parquet table with manuscript Figure 5 data
.parquet table with manuscript Figure 6 data
Output Manuscript Figures
Code for VP-VTA-FP Manuscript stats
Python
Stats prep, Tidying
Run .py script vp-vta-fp_manuscript_stats.py (Has sections for photometry data Figures 1-3 too)
.pkl file output of final dataframes for Manuscript Stats analysis in R
.pkl file with manuscript Figure 4 dataframes
.pkl file with manuscript Figure 5 dataframes
.pkl file with manuscript Figure 6 dataframes
R
Stats
Run .R script VP-VTA_manuscript_stats_fig_4
Run .R script VP-VTA_manuscript_stats_fig_5
Run .R script VP-VTA_manuscript_stats_fig_6
.txt file output of R stats results
.txt files with manuscript Figure 4 stats output
.txt files with manuscript Figure 5 stats output
.txt files with manuscript Figure 6 stats output
Manuscript-specific code beyond this point
-This is a complicated way to get from MATLAB to R for complex stats (e.g. LMEs). I did this because I liked Python for data tidying. Recommend finding your own workflow instead of using this. Also, this code is not well-commented or complete. Sections referring to Fig 1-3 data are from photometry so will probably get errors.