DynoCog Updates

Zach Wolpe   **7 April 2021**

Overview

Hey team!

A live meeting might not be necessary today, as I have nothing to present. I do, however, still have a number of updates, presented here. I'm happy to meet if you'd prefer this verbalised, otherwise a response here will suffice for today.

I've revised my short term plan - April.

Implementation

11 April 2021 (Finishing)

I'm still busy with the Psytoolkit changes. This is where I've been spending all my time. I aim to have this finished this weekend. Ben will you let me know about the desired changes to the WCST when you get a chance.

Only small changes remain, you can see the current state of the implementation here:
Note: the experiment is in 'design mode' and thus not collecting data.

https://www.psytoolkit.org/c/3.3.0/survey?s=MmWxJ

MTurk Implementation

12 April 2021 (Starting)

On completion of the psytoolkit implementation, we can move to the MTurk implementation. @ Ben & @ Jussi are you going to handle this? Of course I'm happy to do whatever you need, but most of the credentials/information will come from you.
Let me know what you need from me here, & I'll start this on the 12 April 2021.

Master Writeup

12 April 2021 (Start)

I'm going to come up with a succinct plan to begin writeup, based off the skeleton @ Jonathan gave me. More info to follow next meeting.

Theoretical Model Design

12 April 2021 (Starting)

As the implementation will be complete I can begin designing the theoretical model design, as I know what data to expect.

The model will largely be an adaptation of the Slooten model, Hierarchical Bayes, as discussed. I also need to come up with a plausible range over priors. & some flexibility in model design. This RL model only considers the WCST data. Obviously there are a number of other experimental data that need to be considered. @ Jonathan correct me if I'm wrong, but I see two points of including the additional experiments:
- Perform some correlation analysis across task, as a theoretical 'safety check'
- Incorporate this information into the model, possibly by some additional parameterisation or by influencing the priors.

This is nontrivial & will require lots of trail & error on the actual data. I have no ideas about this just yet.

Additional Advisory - Allan Clark

Although Jonathan (& Ben?) are my primary academic advisors. I'm technically doing my masters in the Stats department (not Math) & as such needed a secondary advisor in the Stats department. This can simply be an administrative task & serves no consequence to any of you.

Allan Clark (http://www.stats.uct.ac.za/stats/people/academic/clark) was going to serve as this additional advisor on my MSc thesis submission. Originally he was not going to involve himself in the project at all as I thought the focus with would purely RL.

Allan's focus is Bayesian Analysis & as the project has moved to Bayesian RL he can offer great value & would like to join the project. He'd like full involvement in the project/paper.

I'm learning tons from the mentorship of both of you @ Jonathan & @ Ben, and it's up to you to decide whether or not we need extra support on the project or not, but I think Allan would be a great asset to me in designing the Bayesian framework.

@ Jonathan & @ Ben let me know what you think about this. If we go ahead with with I'll setup a session to get Allan up to speed.

Baseline Data Processes

12 April 2021 (Start)

Once the implementation is finalised, I will have full knowledge of the structure of the data being collected, & thus can begin writing the code to process these files & load them into Python in a logical sequence.

Summary

11 April 2021
      Goal: Complete Psytoolkit Implementation
      Dependencies:
            - Ben's feedback on the WCST implementation
            - Ben's perusal of changes (discussed on the Google doc)

12 April 2021
      Start:
            - MTurk Deployment (@ Ben & @ Jussi)
            - Writeup schedule (@ Zach)
            - Data (structure) processing (@ Zach)
            - Theoretical Model Design (@ Zach, @ Jonathan & @ Allan)

I look forward to your feedback.