

Subject: Fwd: Roadmap to Deviant programs
From: Geoffrey Ghose <ghose@umn.edu>
Date: 4/2/19, 1:46 PM
To: Ruyuan Zhang <zhan1217@umn.edu>

----- Forwarded message -----
From: **scott** <oldmanwarren@gmail.com>
Date: Mon, Apr 1, 2019 at 4:27 AM
Subject: Re: Roadmap to Deviant programs
To: Geoffrey Ghose <ghose@umn.edu>

I think I have pneumonia.

A few programs to look at.

For Anders, I wrote a program called `sgwarren/matlab/Deviant/loadDataForAnders.m`, but I think it's a bit out of date. It loads images into a big matrix `I`, and trials into a struct array `T` with fields to describe each trial. Most importantly, `T` has indices for each trial's images in `I`.

Once `T` and `I` are loaded for a given data set you have all the data you need for a given analysis.

A good exercise would probably to look at Blofeld's position tuning, in:

`sgwarren/matlab/Deviant/Data/B/PositionTuning`

You can find four data pieces. `F` is the file struct from `lablib`, with all the settings that are the same across all trials, and `T` is the trials struct with trial specific data. `I` is the set of all images. `A` is the set of affine transformations used to register each image and is essentially useless, the transformations are already applied in these data files. That is to say these are registered images.

From there you can, in somewhat straight forward fashion, find e.g. all the trials with a `T(i).trialDescription.stimulusIndex` of 0, 1, 2, ... 8 and group the trials with each of the nine positions showed individually for position tuning purposes.

Then you can grab the corresponding images for each given trial by going to `I(:, :, T(i).imageData:T(i).imageData+length(T(i).ImageTime)-1))` or similar, and now you have the images for each trial. Because trials are of different lengths, you need to do lots of fanangling to align these sub-image matrices so that, e.g. image number 7 is the "first" image of the stimulusOn period, etc. That alinging is what "imageHelper.alignImages" is doing in the `loadDataForAnders` code.

Aligning is kind of time consuming and annoying, so I have pre-aligned data in the Data folders. But aligned image files are huge and mostly empty, so the pre-aligned data use a sparse data version that needs to be converted to full. For example...

```
load('PositionTuning_AlignTo_StimulusOnTime')
PTuningImages = imageHelper.convertSparseToFull(S,IV,V) % S, IX, V are in the data file
```

I might not start there, but most of my later analyses will use these pre-aligned data because I almost always just wanted all the images to line up to the time the stimulus turned on.

Obviously this is incomplete but it's a starting point.

On 2019-03-30 12:05 p.m., Geoffrey Ghose wrote:

Thanks.

On Sat, Mar 30, 2019 at 9:02 AM scott <oldmanwarren@gmail.com> wrote:
I've been on a nasty long call cycle this week, sorry. I'll send the files I've found over today, which I have off, shooting for after cameron's nap

On 2019-03-27 1:02 p.m., Geoffrey Ghose wrote:

Please!

On Mon, Mar 25, 2019 at 10:21 AM Geoffrey Ghose <ghose@umn.edu> wrote:
I take it you didn't send me something. Can you? Ruyuan needs to get started.

On Wed, Feb 27, 2019 at 10:48 AM Geoffrey Ghose <ghose@umn.edu> wrote:
Did you send me something?

On Thu, Feb 21, 2019 at 7:28 PM Geoffrey Ghose <ghose@umn.edu> wrote:
Thanks

On Thu, Feb 21, 2019, 7:28 PM scott <oldmanwarren@gmail.com> wrote:
OK, let's talk later, but I'll e-mail you some things I've dug up shortly.
Enough to play with anyway.

On 2019-02-21 8:19 p.m., Geoffrey Ghose wrote:

If it makes more sense to talk in a few days that's fine with me

On Thu, Feb 21, 2019, 6:50 PM scott <oldmanwarren@gmail.com> wrote:

Sorry, I meant Facetime or "webex" 8:00pm your time, but to be honest I might not have much.

I am traveling from 2am to 2pm tomorrow but I could also have a phone call any time after 10 or so your time.

On 2019-02-21 7:35 p.m., Geoffrey Ghose wrote:

8 am my time?

On Thu, Feb 21, 2019, 6:10 PM scott <oldmanwarren@gmail.com> wrote:

Darn, I'm traveling tomorrow morning. We can chat mabe 8:00 your time? Sorry Cameron is being a pill. I don't think it will be a very long discussion, I'm looking for Ander's scripts and some semblance of my other stuff.

On 2019-02-21 9:44 a.m., Geoffrey Ghose wrote:

I'm traveling tomorrow afternoon, so that probably doesn't work. Tomorrow morning or later this evening would.

On Thu, Feb 21, 2019 at 5:56 AM scott <oldmanwarren@gmail.com> wrote:

So it turns out I forgot Teresa is traveling today (work trip) so I'm a Single Dad today. Any chance we discuss either tomorrow or later tonight (say 7pm CST)?

On 2019-02-20 5:55 p.m., Geoffrey Ghose wrote:

closes immediately. maybe there's something funny in your startup script that doesn't work on atlas8. want to try starting one on atlas2?

On Wed, Feb 20, 2019 at 4:53 PM scott <oldmanwarren@gmail.com> wrote:

Sure, try: vj32XsRowS

On 2019-02-20 5:52 p.m., Geoffrey Ghose wrote:

I see you on session 9 at atlas8. Do you want to give your password and I can see I can get to it from here?

On Wed, Feb 20, 2019 at 4:50 PM scott

[<oldmanwarren@gmail.com>](mailto:oldmanwarren@gmail.com) wrote:

I have CMRR access but VNC is being picky right now. I had to reset my CMRR password, and I can ssh into e.g. atlas8 no problemo but the same password to get into the vneserver (which I just recreated) is being met with authentication failure. NO changes in the protocols etc. since a few months ago?

On 2019-02-20 5:48 p.m., Geoffrey Ghose wrote:

Were you able to get access? If not, do you want to reschedule?

On Wed, Feb 20, 2019 at 4:42 PM scott

[<oldmanwarren@gmail.com>](mailto:oldmanwarren@gmail.com) wrote:

Sure, I've never WebEx'd but I'll try anything once. Let's aim for 5:30 (6:30 my time) Thursday – I didn't get as much time off tomorrow afternoon as I wanted so I appreciate the flexibility.

On 2019-02-20 8:52 a.m., Geoffrey Ghose wrote:

Congrats! I'd like to meet without you then, and I can fill you in. Scott, can I send you a webex invite?

On Tue, Feb 19, 2019 at 9:18 PM Ruyuan Zhang [<zhan1217@umn.edu>](mailto:zhan1217@umn.edu) wrote:

We are anticipating our baby tmr and will stay at hospital until sunday. Can we do sometime next week? I can do any time next week. Sorry about that.

Sent from my iPhone

On Feb 19, 2019, at 8:50 PM, Geoffrey Ghose [<ghose@umn.edu>](mailto:ghose@umn.edu) wrote:

I would have to be 5 or maybe even 5:30 on Thursday. Ruyuan, is that OK?

On Tue, Feb 19, 2019 at 7:50 PM scott

[<oldmanwarren@gmail.com>](mailto:oldmanwarren@gmail.com) wrote:

Yeah, yeah. I'm a resident now. I'm motivated by guilt and shame. Best to go with the flow.

The funding link is encouraging. I'm very glad for the success.

Either Thursday or Friday can work, both days would need to be 3:00 central time or later. What's good for you two?

On 2019-02-19 9:03 a.m., Geoffrey Ghose wrote:

Sounds like you've got your share of excitement, but a meeting would be great. As I said, I don't think it's very productive to feel bad about things, it's just that science involves a lot of hard work and time and that can be difficult to reconcile with medical training. I'm optimistic things will work out: after all, this postdoc is being paid by the grant in which you and Anders' analyses were included.

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He's basically starting now; we're waiting on new monkeys, so he's going to be working full time on analysis and writing. Is skype sometime this week ok?

On Tue, Feb 19, 2019 at 7:20 AM scott <oldmanwarren@gmail.com> wrote:

Hi boss,

Happy to help as much as possible. Sorry for the delayed reply, I got called in as "emergency coverage" for night shift this weekend. Someone better have had a good time at whatever concert they went to.

On a personal note, I have remorse on a daily basis for how things are still dangling. It's not even the lack of a paper, it's the ingratitude for

the invaluable camaraderie and mentorship you provided. Moving was a nightmare of preparations and family obligations, and residency has just been an extended (and, at times, campy) horror film.

So: paper. Huge fan of having backup. Agree he will need more support from me. For Anders, I wrote "tutorial" scripts that had copy-paste-able gave him access to the data and allowed for his work. This may not be sufficient for a post-doc level worker, and certainly will not document every subfield of my contrived data structures.

The "good" news is that during Thesis time I basically re-wrote everything with this somewhat in mind (e.g. the code flows from raw data to graphs, weird stuff has comments, variables have names, you know, good stuff). The bad news is it probably needs more polish and a master outline.

The OK news is I am on elective and so have free time, and I've discussed the need with Teresa and she's agreed to give me more time in the evenings. I can also discuss taking Thursday off. I'll look into the code tonight as much as I can.

This weekend I'm actually traveling home for a funeral (Grandma, she suffered a long time and this is a relief for all involved, condolences appreciated) so there may be some good airplane time too if Cameron cooperates.

I have to sign off to get into work and tell a bunch of strangers they have cancer (Oncology), but we should probably set up a Skype

session with the post-doc as well.
When will he start working on things?

On 2019-02-15 4:47 p.m., Geoffrey Ghose wrote:

Hi Scott,

Hope things are going well for you.

I have a postdoc joining the lab and his first task is to get your paper out. I'm poking around and can't find any roadmap to your programs or intermediate data files. Is there such a thing? How did you get Anders started?

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