

Josue Orellana Page 1-4 Comments

Brendan McVeigh

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1 General Comments:

My first reaction is that you have obviously put a lot of time and effort into this section of the paper getting it near to a final version. One thing to bear in mind throughout my comments is that I may not quite have the same background as the target audience, particularly with regards to grounding in how the brain works. So feel free to disregard any comments asking for clarification of concepts that would be clear to the intended audience.

One general comment is to try to be more consistent in how you reference your multi-panel figures. In some cases you refer to A/B (e.g. Figure 1B) and in other cases you reference left/ right (e.g, Figure 1 (left)). This is confusing and needlessly detracts from the clarity of the paper.

A second larger area to work on is integrating the different sections better, or at least making the relationships more explicit. For example, after reading section 3 you had introduced a lot of equations and terminology but I didn't really have any sense of how it was supposed to fit with the rest of the paper. This might be most easily addressed by expanding the introduction as this could give the reader a better sense of what to expect from the subsequent parts.

But in general I think the paper has a good feel and seems like it is being portrayed at the right level (the formatting also helps here). Each of the individual sections are well focused and self-contained which is good. With my more limited background some of the explanations are too concise but depending on your intended final audience this may not be too much of a problem.

2 Specific Comments:

- Last section of introduction: is "population code" defined anywhere? I think I have a basic idea for the preceding sentences but I am not certain about this. Alternatively, this may be a common enough term that it does not need a definition.
- Page 2, first line after equation 2: I don't see a definition of μ_θ anywhere.
- Page 3, first paragraph after equation 6: This is really dense in terms of introducing new terms and also blends the explanations for equations 6 and 7 together which can be a little confusing.
- Section 4, line 5: I am very confused by the transition from the 4th to the 5th sentence. I can see the connection between the 3rd and 5th sentence but the 4th one as it is currently placed is
- Section 5, line 4: You mentioned "direction of reach" but I am still confused about exactly what it means in this context (this may be because of my lack of background)
- Page 4, line 4-5: Is this also the circular central limit theorem? If yes say so to keep the terminology consistent. If not then I am confused...