

Closed-loop neurofeedback to improve conscious perception

Pablo Rodríguez-San Esteban¹, Maarten Ottenhoff², Christian Herff², Ana B. Chica¹ & José A. González-López³

¹ Department of Experimental Psychology, Mind, Brain, and Behavior Research Centre, University of Granada

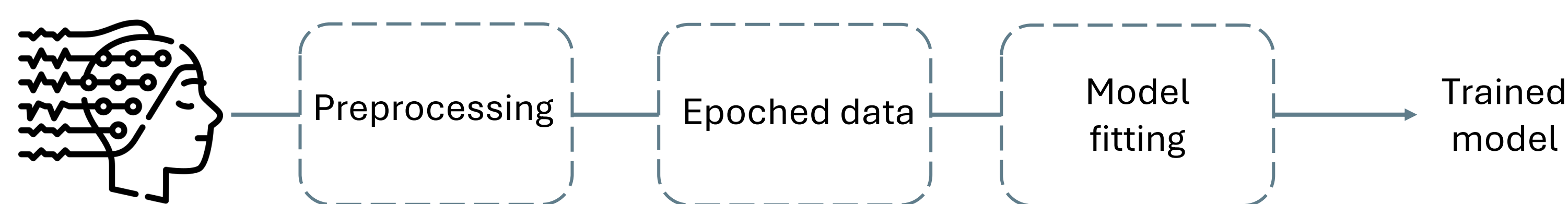
² Department of Neurosurgery, School for Mental Health and Neuroscience, Maastricht University

³ Department of Signal Theory, Telematics and Communications, University of Granada

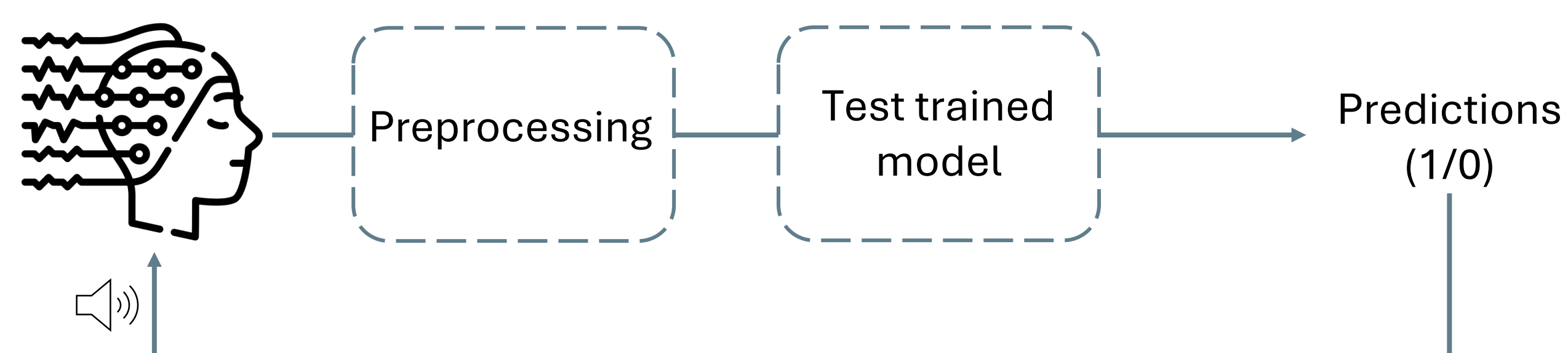
What do we want to do?

Build a closed-loop system that can improve conscious perception through neurofeedback.

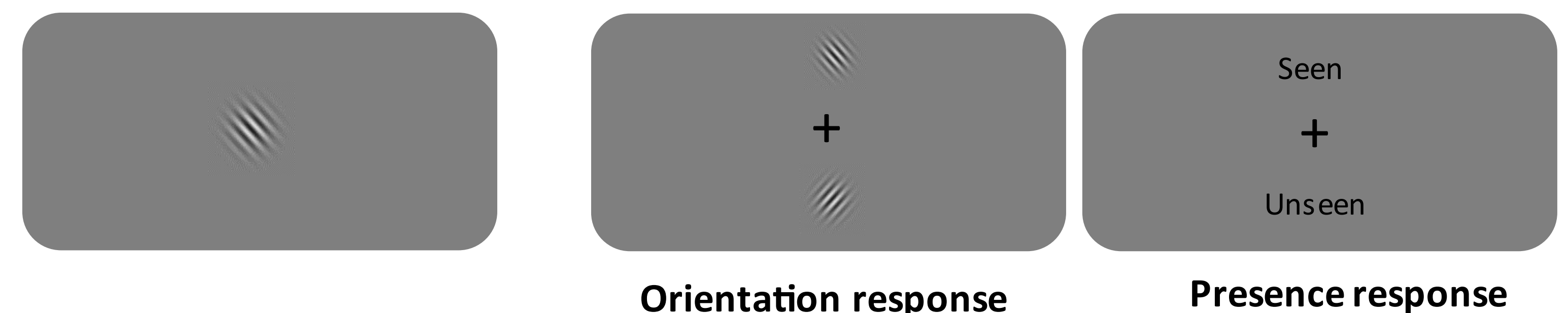
Training mode



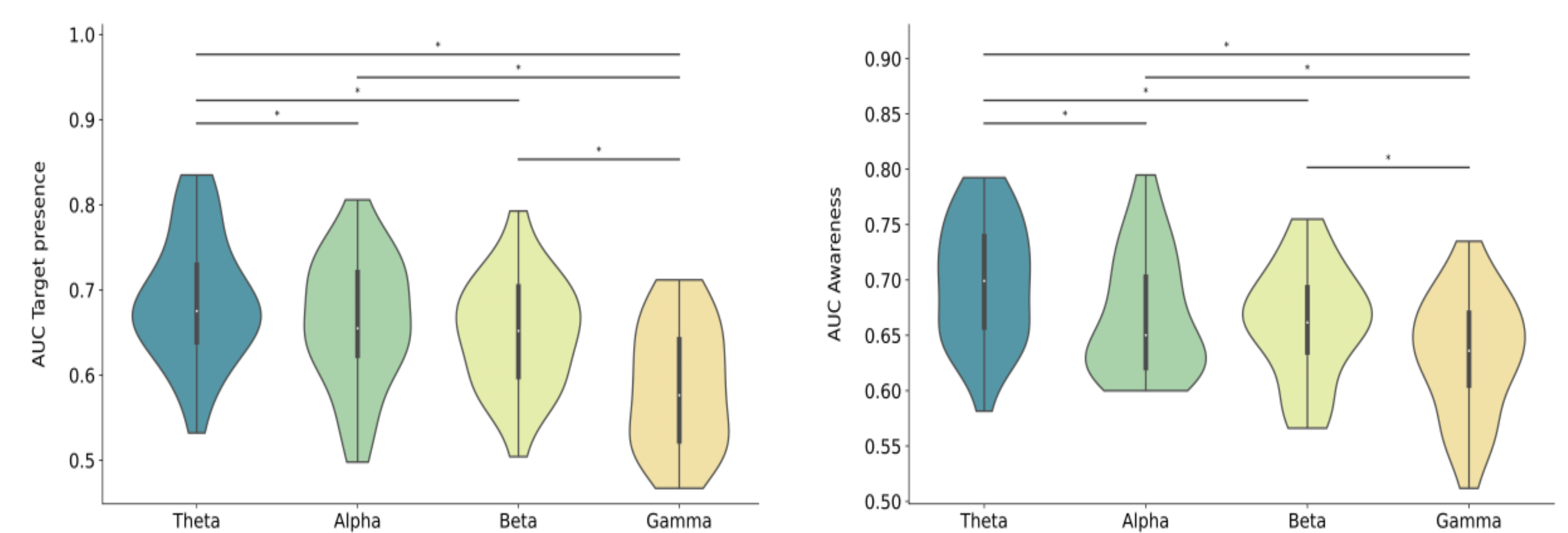
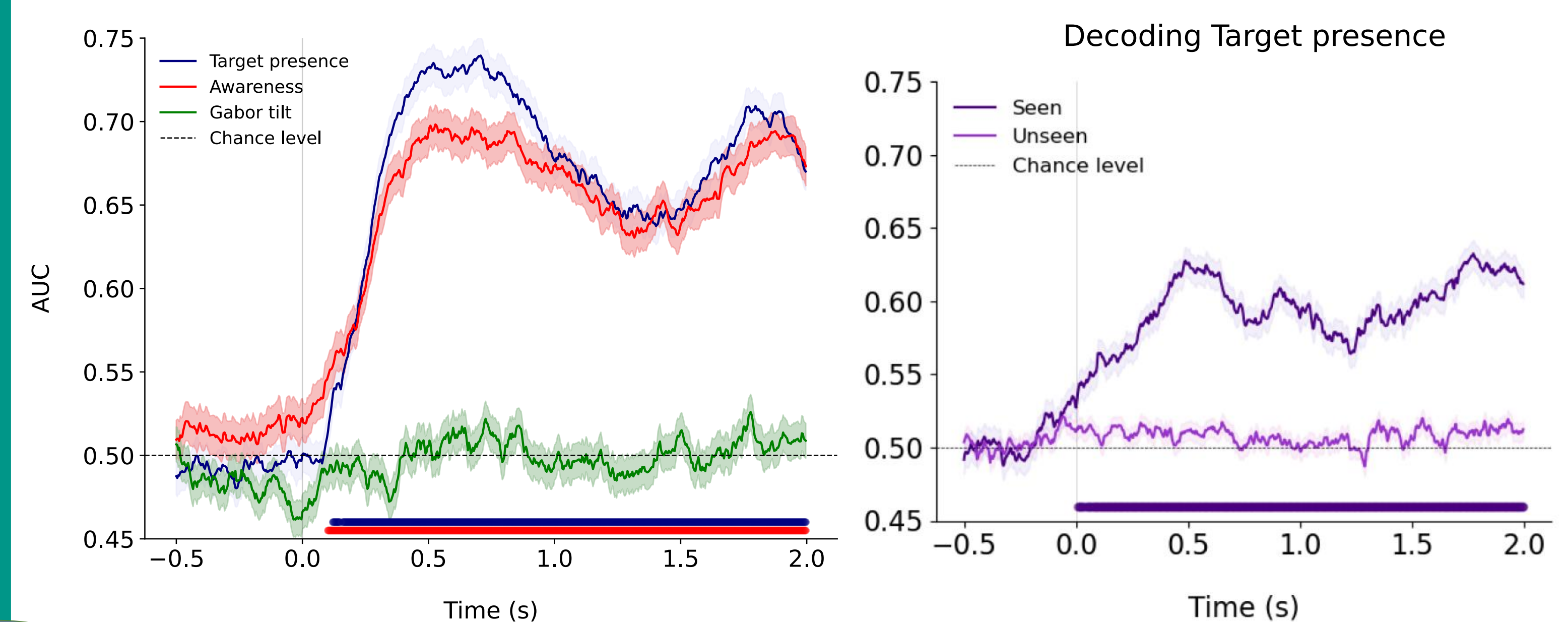
Evaluation mode



What have we done so far?

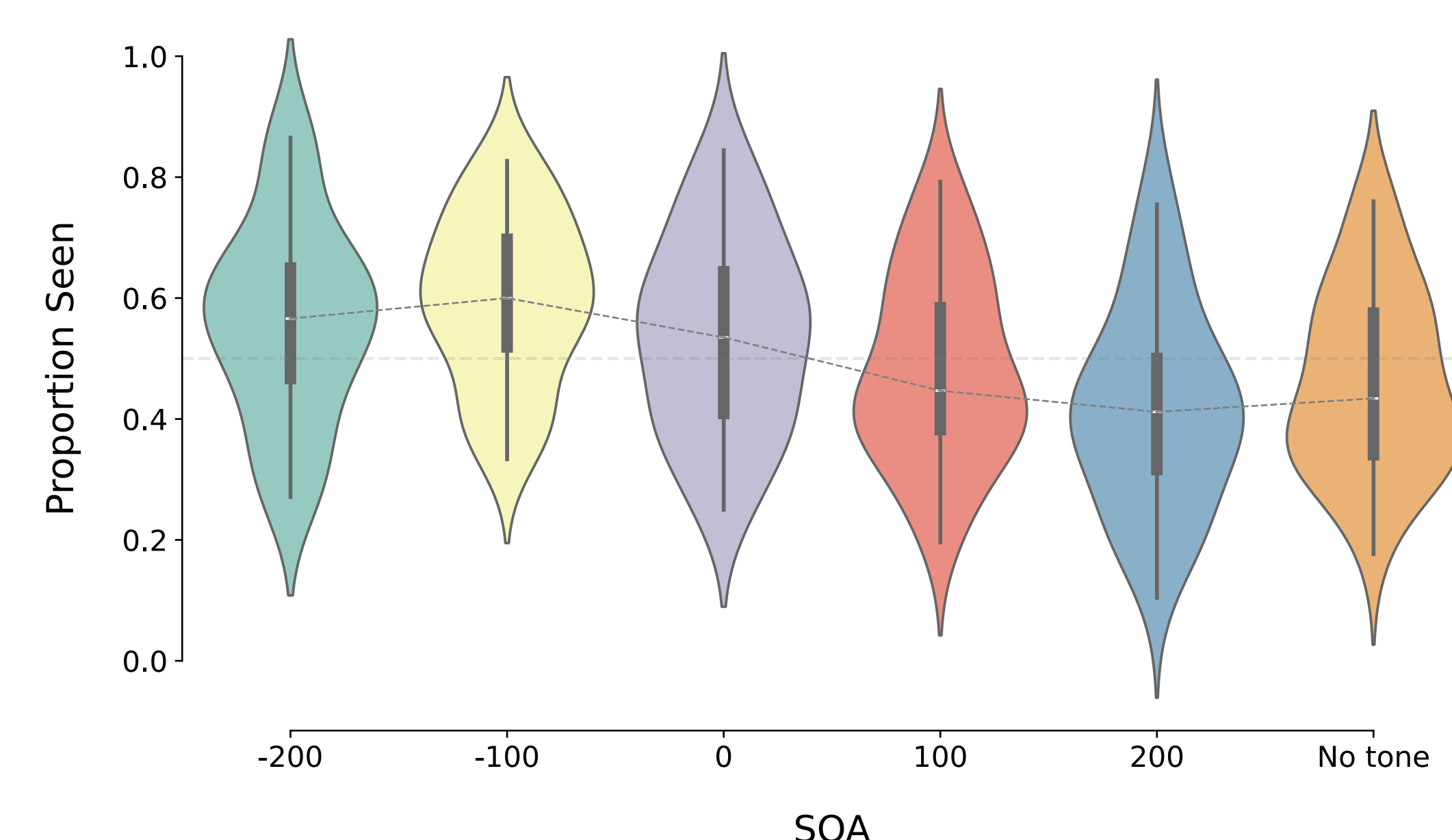


EEG Decoding

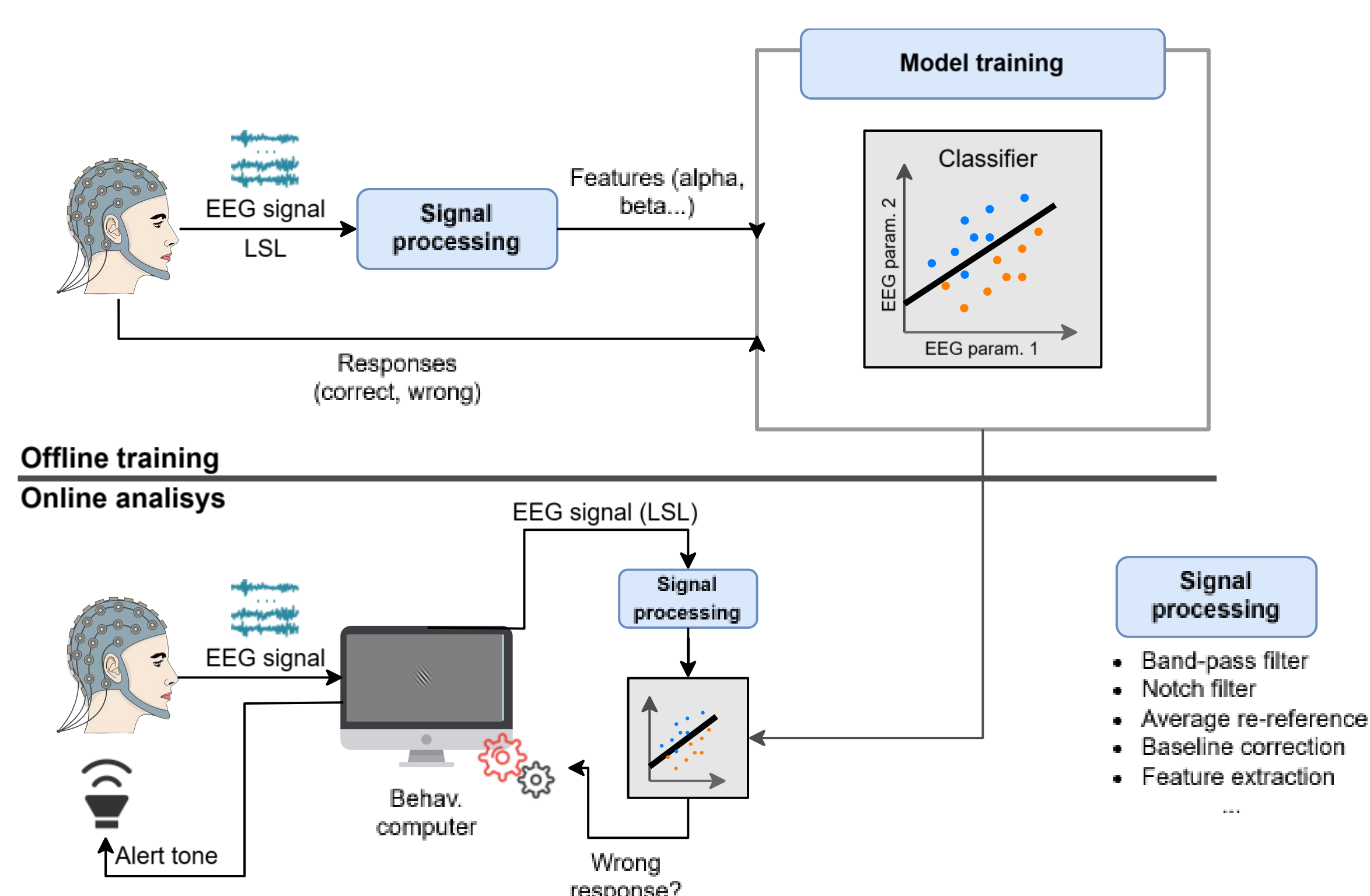


(Under review at *Scientific Reports*)

Behaviour



What are we doing (and will do)?



- Try specific frequency bands
- Check how predictions oscillate over time.
- Generalization to other participants?
- Follow-ups for the behavioral experiment
- Different models to improve prediction: Recurrent Neural Networks

