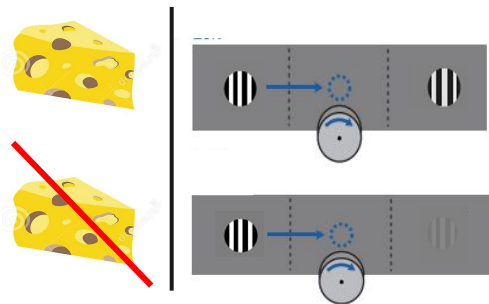
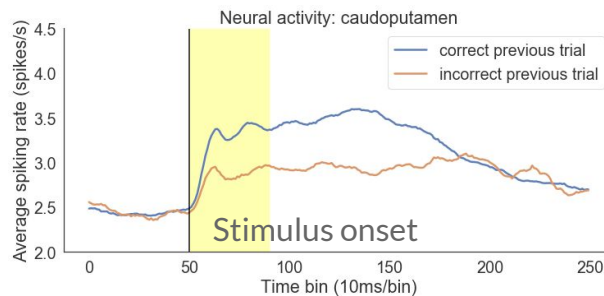


Does previous trial experience affect neural activity in different brain regions, and how?

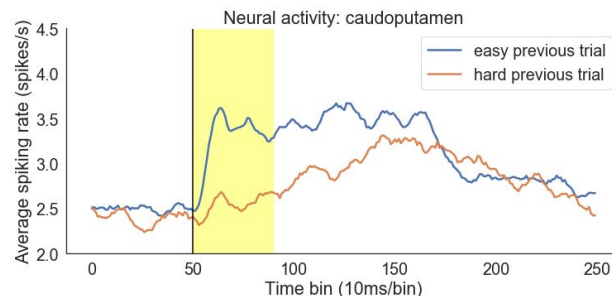
Previous Reward/ Difficulty



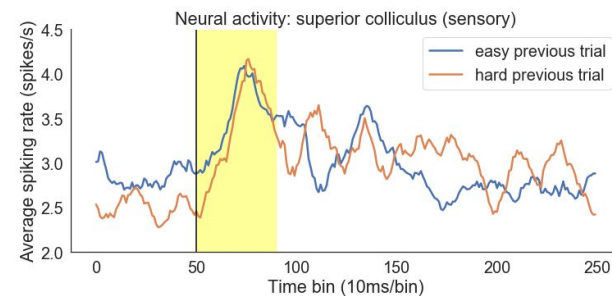
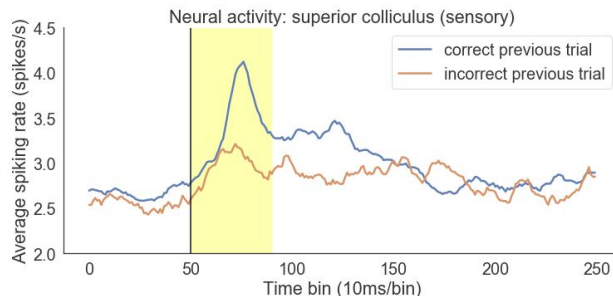
Reward



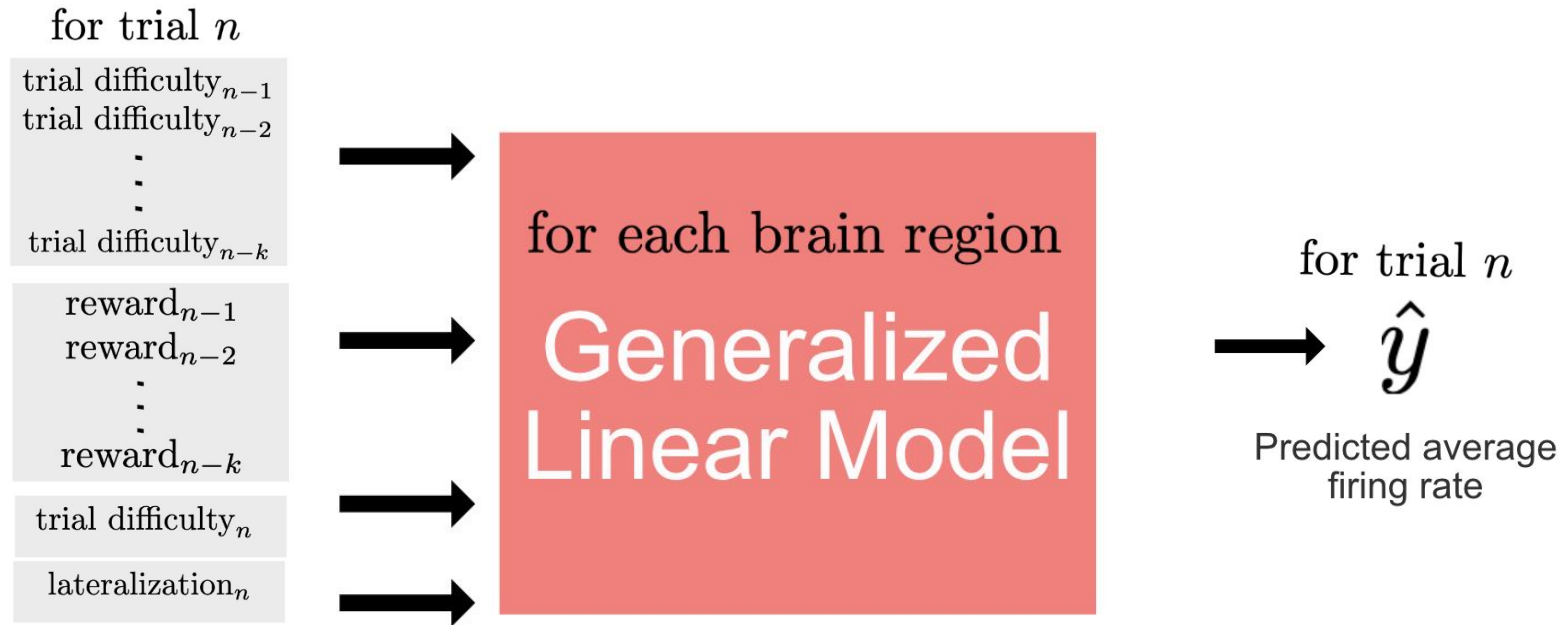
Difficulty = $\frac{\text{low contrast}}{\text{high contrast}}$



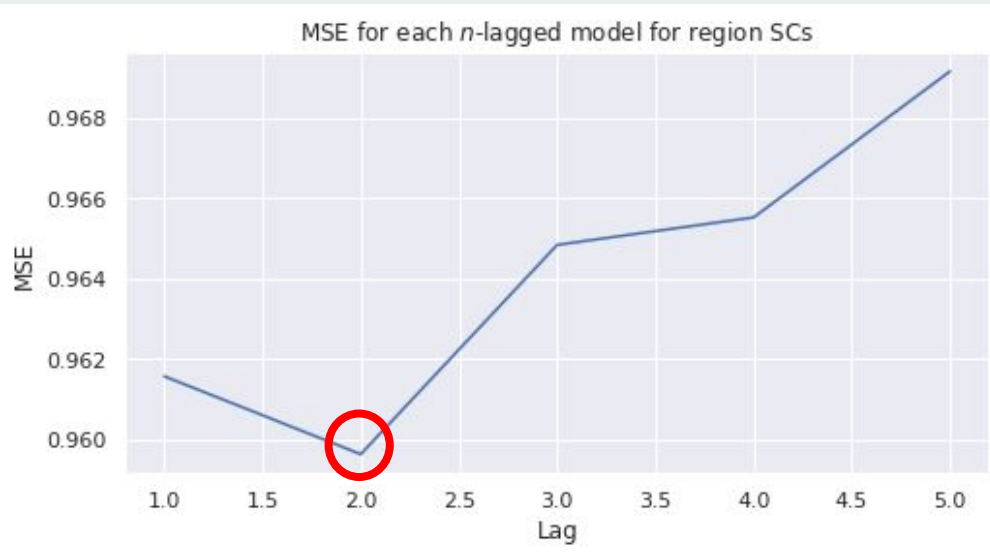
Steinmetz Data



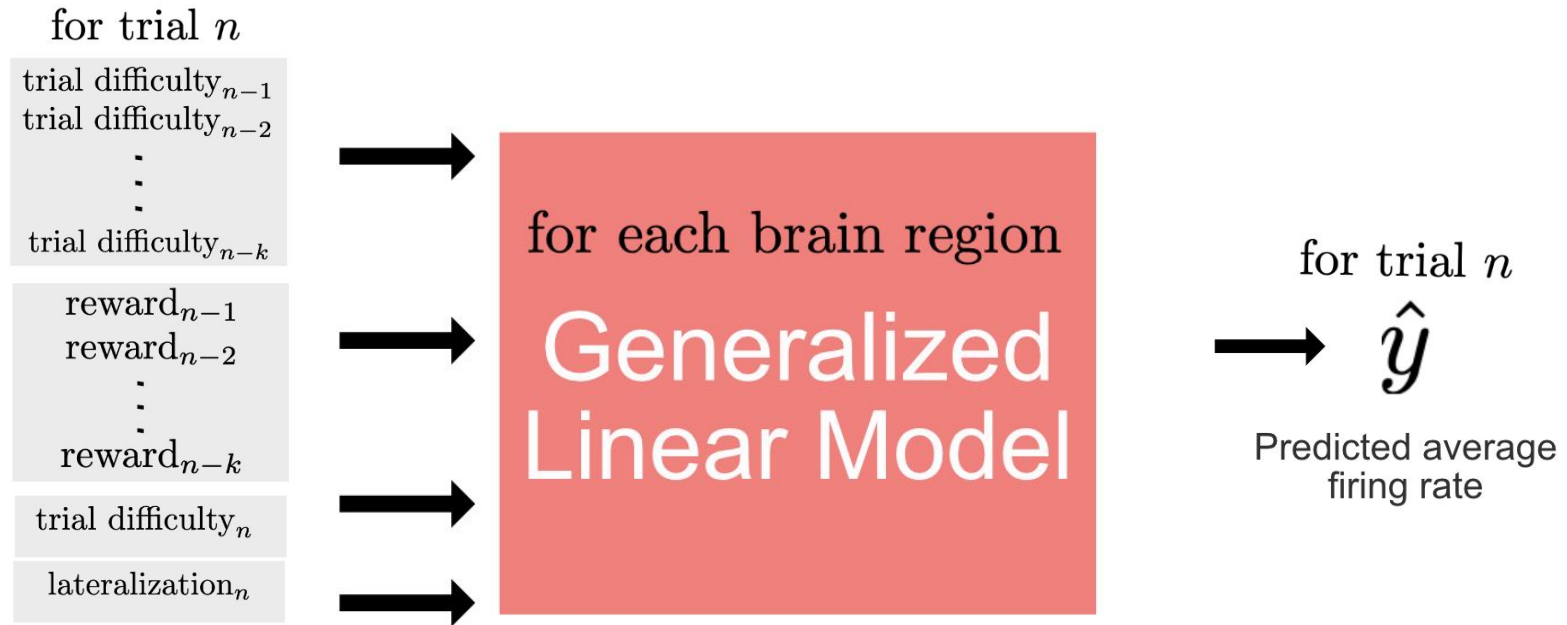
Effect of trial difficulty and past rewards on the average firing rate of the current trial



Mean squared error

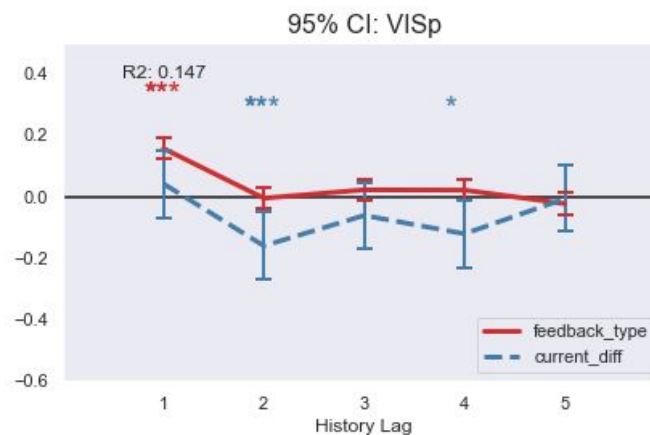
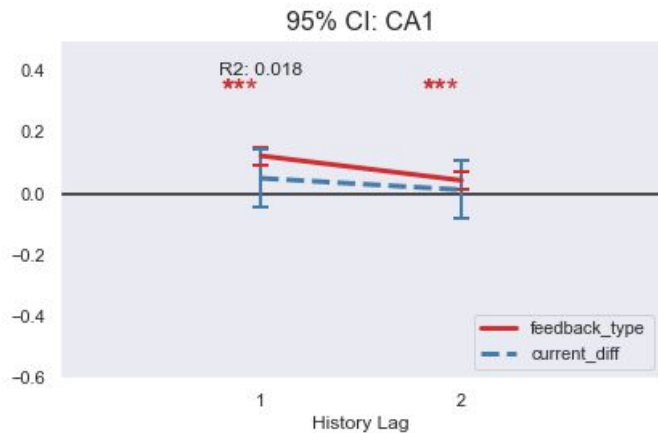
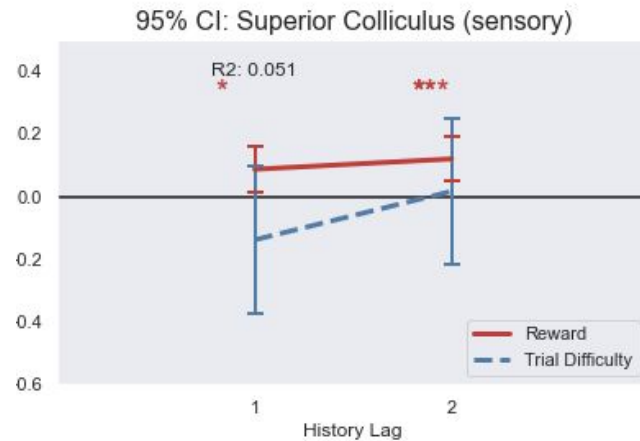
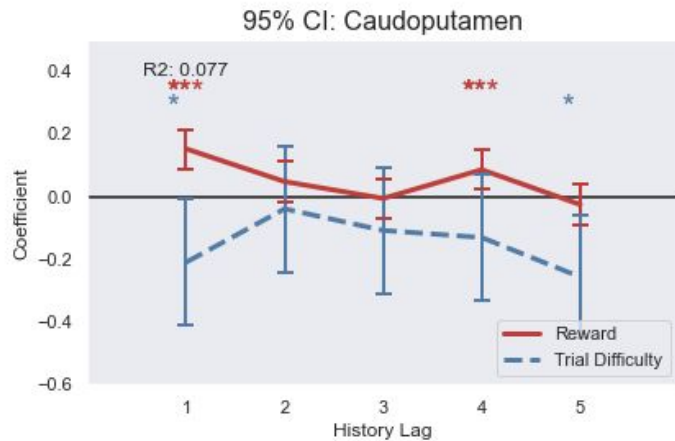


Effect of trial difficulty and past rewards on the average firing rate of the current trial



Results

Coefficients



Conclusion

- Feedback (reward/penalty) from previous trials affects spike activity in many different brain regions
 - previous reward increases firing rate
- Effect of previous trial difficulty on spike activity is rarer
 - previous easy trial increases firing rate
 - Large confidence intervals on coefficients
- R-squared values are relatively low - many other factors that influence spike activity
 - Engagement, other aspects of current trial

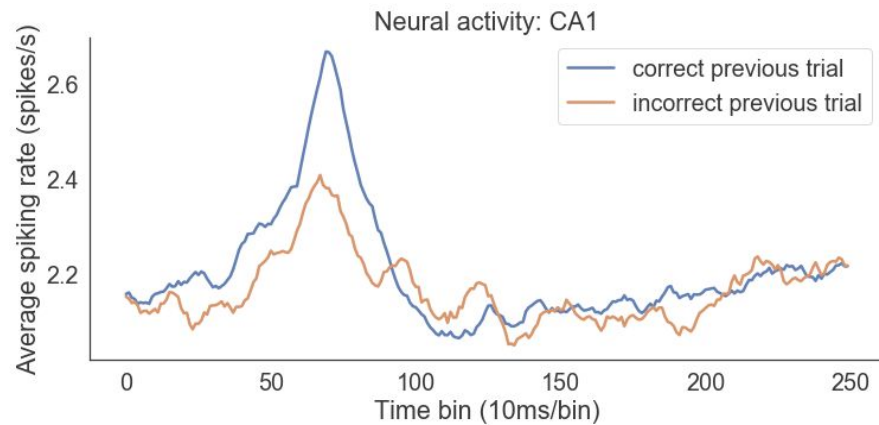
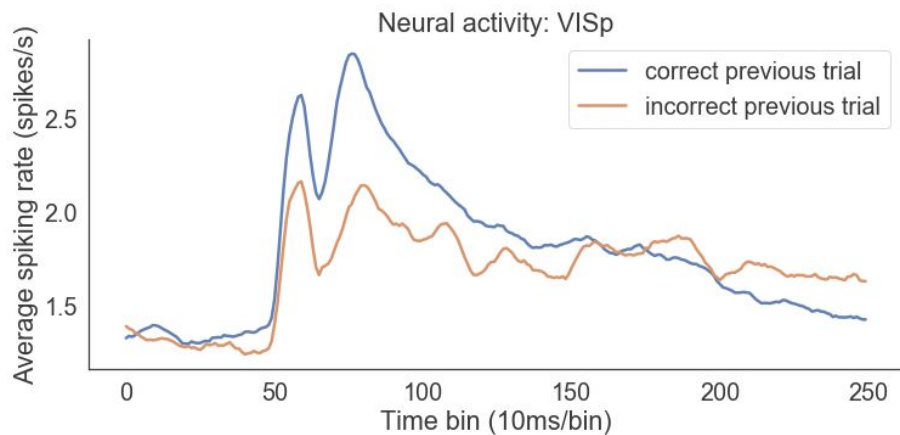
Thank you for listening!



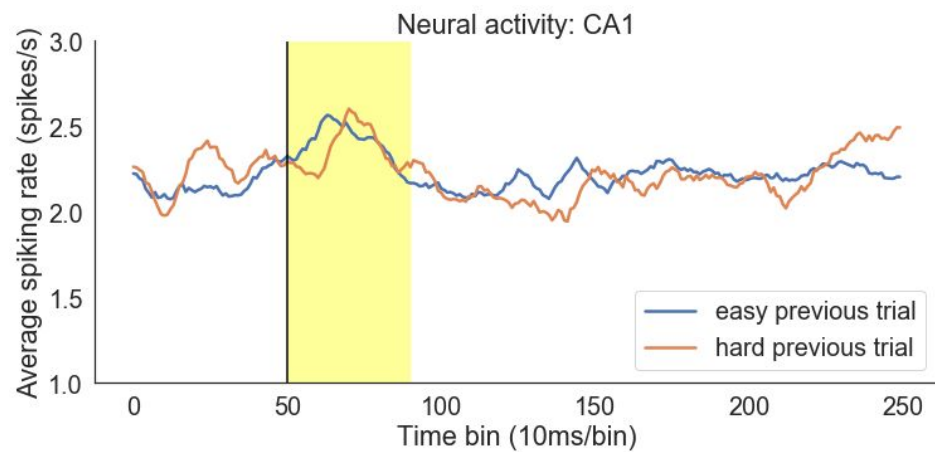
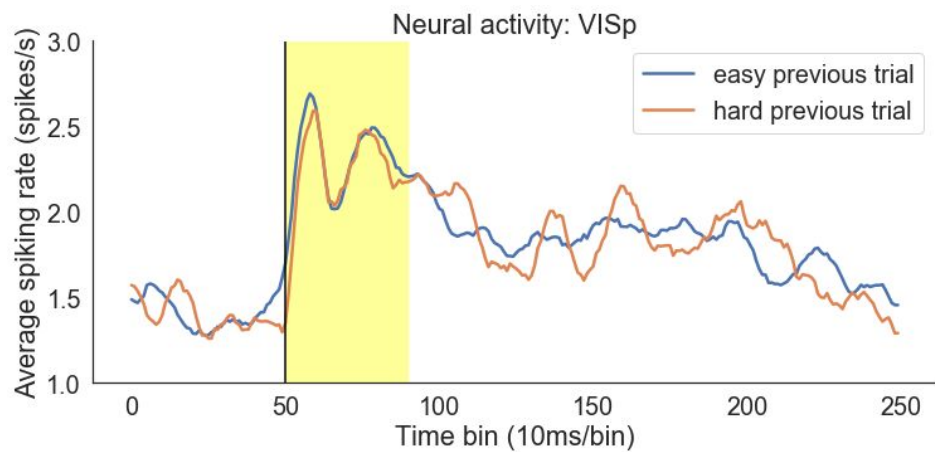
We would like to thank our mentor Dr. Patrick Mayo, our TA Dr. Jennifer Sun, and our fellow pod members for a fun and thoughtful NMA experience :)

America's Next Top Modelers: Italo, Himanshu, Can, Brett

Reward



Trial difficulty



Accuracy (%)

