Final Project Proposal:

My final project will consist of visualizations that I can incorporate into my NIH fellowship application as pilot and preliminary data. The intended audience will the NIH grant review section, namely, the Learning and Memory section. Additionally, I would also like to reproduce each figure to communicate to friends and family what my research interests entail. The data source will include multiple data sets that were collected by myself and people from my lab, with approval for public sharing. These data sets include performance across different types of memory tasks that were conducted with human subjects, as well as summarized fMRI data. Below is a list of preliminary ideas of the different visualizations that I can perform, as well as their intended message.

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| **Visualization** | **Intended Message** |
| Hypothesized outcome for a structural equation model | To show the various tasks included in the model and the hypothesized latent factors that will emerge. |
| Scatter plot showing correlation between odd/even trials for different tasks. | To show the reliability of the different tasks that I will be using. |
| A matrix will show the pairwise correlations of neural activity associated with each stimulus. (see example below) | To show that certain brain regions support abstract category representations. |
| Bar plot showing the strength of category representations across different brain regions | Same idea as above just not as complicated to look at. |
| Scatter plot showing how strength of category representations correlate with performance on a task. | To show that the strength of category representations in certain brain regions can track how well people make category judgements for new exemplars. Will need to contrast this effect with how well the strength of item representations in the same regions track performance, so I think using color to highlight the importance of the relationship of interest will work here. |
| Scatter plot showing the relationship between model fits of behavior and neural activity. | Neural activity in certain brain regions track the type of strategy people use to make category judgements of new items. Would scale the color by which strategy I’m looking at, or could use color to highlight the strategy I’m interested in. |
| Histogram or bar plot of categorization performance based on which strategy they used. | Participants relying on an abstract category representation will perform better than participants relying on unique category examples. |