Supplementary Fig. 2  Effect of eye position on response spread. We first calculated the mean offset and standard deviation of eye positions for each target-present trial within the temporal interval over which VSD responses were averaged. (a) and (b) scatter plots of $\sigma_{\text{min}}$ and $\sigma_{\text{maj}}$ for trials with values below the median variation (standard deviation) vs. trials with values above the median variation across all 8 experiments. (c) and (d) scatter plots of $\sigma_{\text{min}}$ and $\sigma_{\text{maj}}$ for trials with values below the median offset vs. trials with values above the median offset across all 8 experiments. Error bars – same convention as in Supplementary Fig. 1.

If variability and/or offset of eye positions contribute significantly to neural response spread, we would expect the spread to be significantly lower in the subset of trials with lower variance and/or offset. Instead, the average values fall close to the identity line, indicating that the contribution of eye position to the VSD response spread is minimal. The average value of the median offset was 0.32 deg and the average value of the median standard deviation was 0.003 deg$^2$ ($N = 8$).