

Figure 1: Updated version of figure 4 (decoding pendulum angle). Added results from RNN-MF and convolutional baselines.

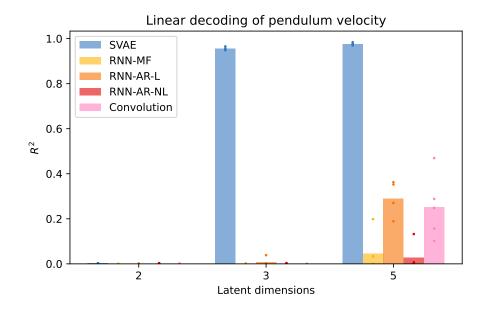


Figure 2: Updated version of figure 4 (decoding pendulum velocity). Added results from RNN-MF and convolutional baselines.

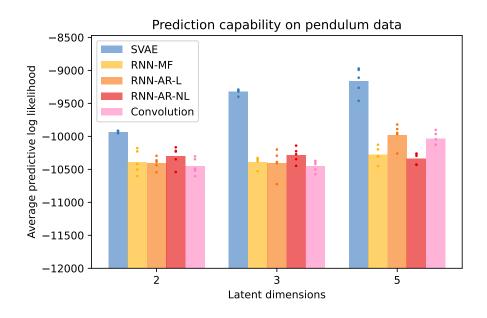


Figure 3: Updated version of figure 5 (predictive log likelihood). Added results from RNN-MF and convolutional baselines.

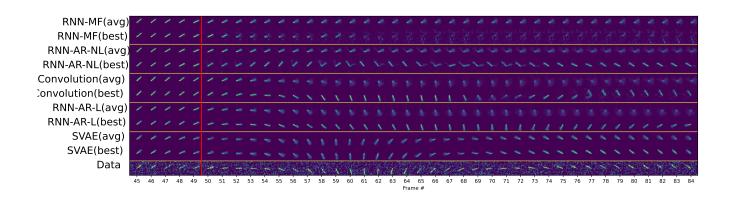


Figure 4: Updated version of figure 6 (predicted trajectories in image space). Added results from RNN-MF and convolutional baselines.

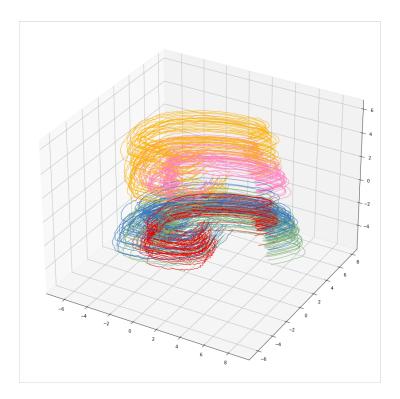


Figure 5: Low dimensional projections of the 32-dimensional representations learned by the SVAE in the maze reaching task in neural latent benchmark (NLB). The axes are the first three principal component directions. The colors represent different maze settings. The plot shows that the SVAE can learn meaningful structured representations from real world recordings of neural spike trains.