Categorization in avian species. Progress report

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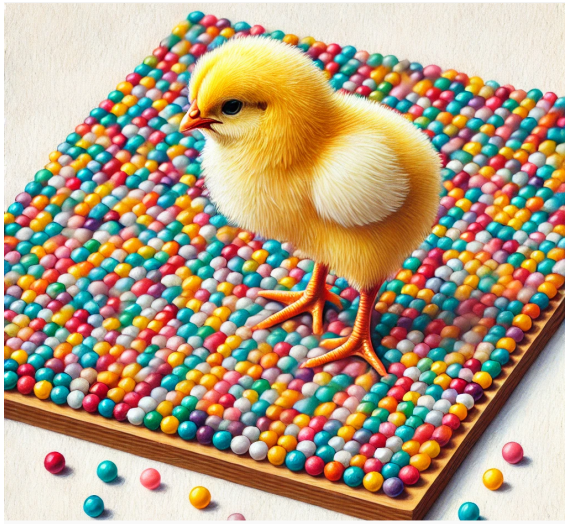
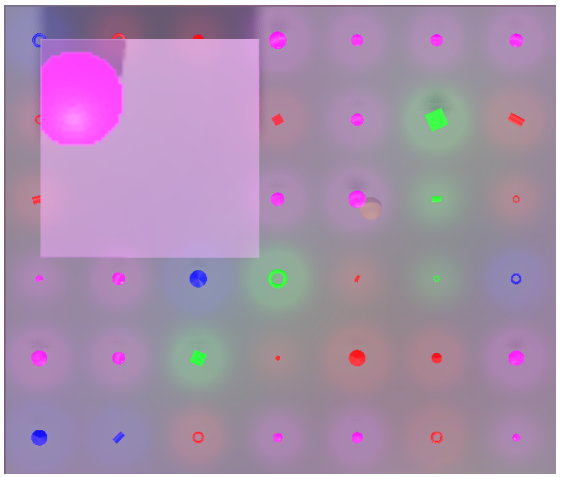
Introduction

- Study of peck sequences in chicks
- Colaboration w/ behavioral research
- Categorization model





Pecking experiments

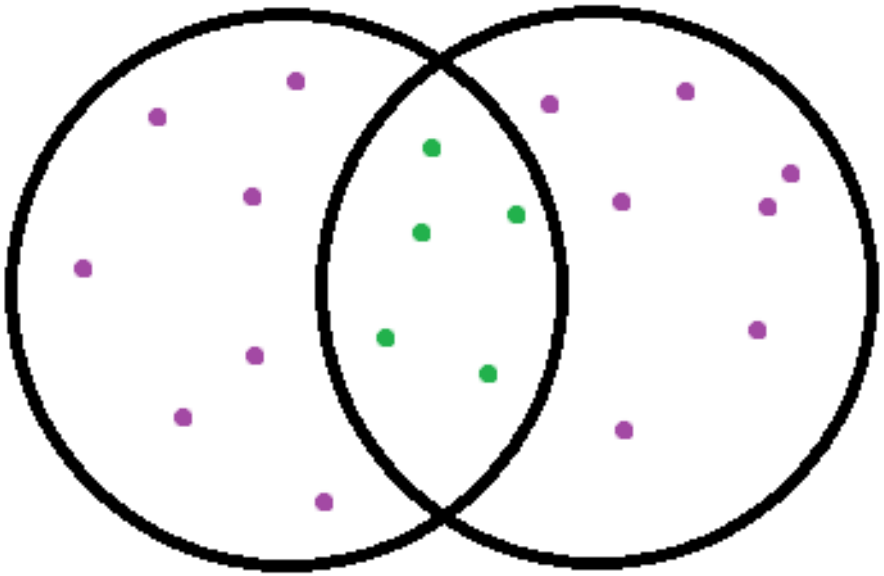
Recap

- Problem
  Pandey et al. 2024
- Model

$$P_{t+1} = SP_t + \alpha[K(X_t|e_t, \delta)\mathbf{1}_{(1\times C)}]$$
$$\cdot[f_t\mathbf{1}_{1\times N_t} - \omega P_t],$$

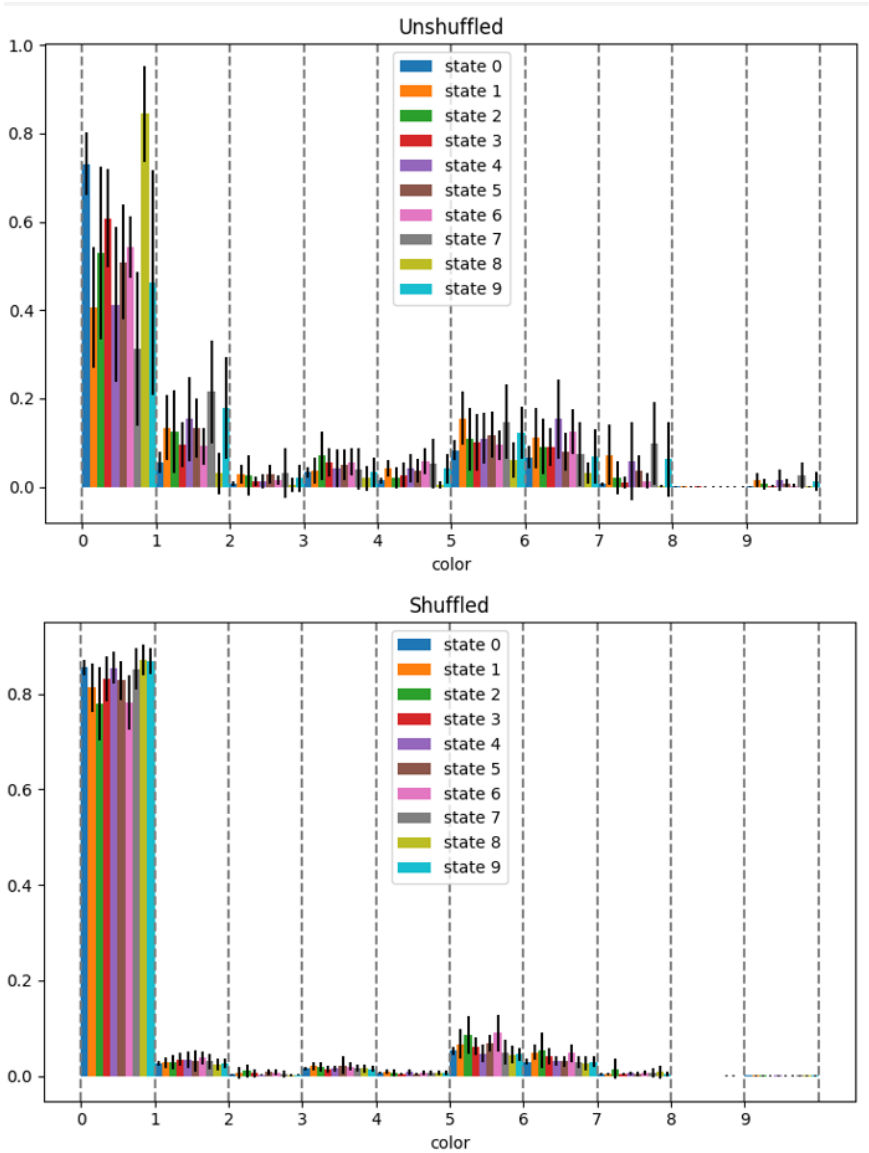
where

$$K(X_t|e_t, \delta) = \exp\left(-(\delta|X_t - e_t|\right)$$



Study of peck sequences in chicks

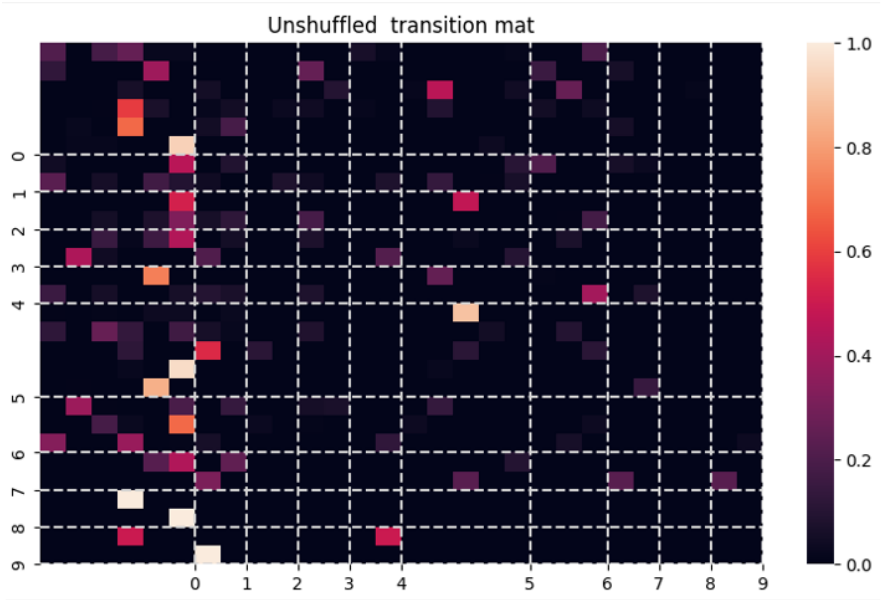
- Data
- Hidden Markov model

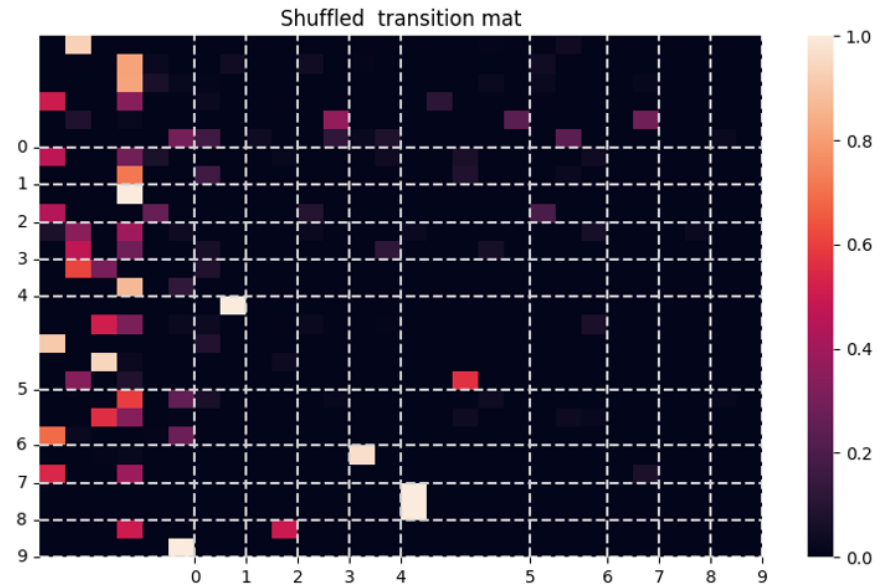


Destribution of pecks

Study of peck sequences in chicks

- Data
- Hidden Markov model

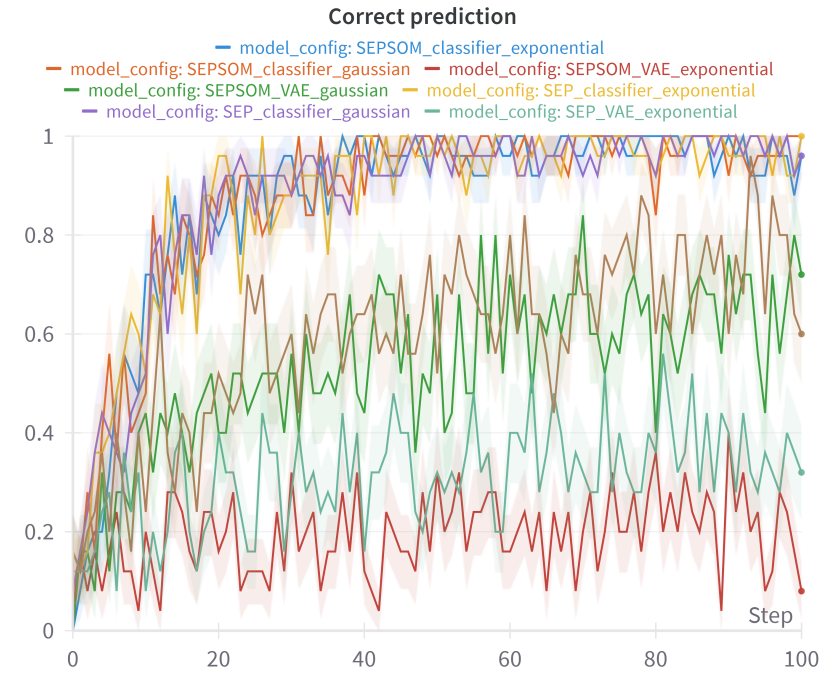




Transfer matrix

Current state of model

- Different encoder model compiled with a categorization head from [Turner 2019]
- Model is developed
- Results on MNIST
- Further action: incorporating model with an RL agent



training accuracy

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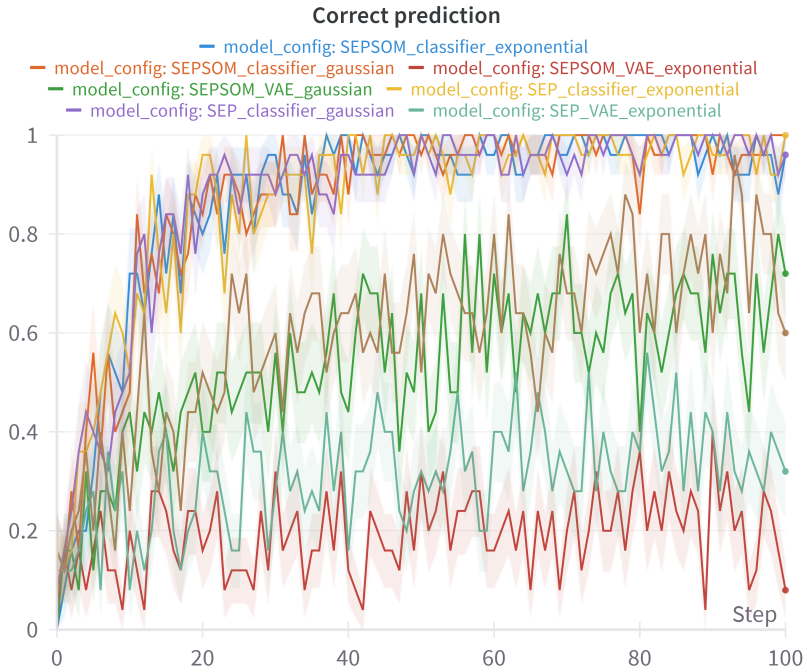

THANK YOU FOR YOUR ATTENTION