Suggested further readings

Hidden Markov Models

HMMs can be used to understand the statistical structure of birdsong. Katahira, et al., Complex Sequencing Rules of Birdsong Can be Explained by Simple Hidden Markov Processes https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0024516

Kalman Filter

KFs have been used to decode cursor movement from neural activity in brain-computer interfaces. Wu, et al., Neural Decoding of Cursor Motion Using a Kalman Filter https://proceedings.neurips.cc/paper/2002/file/169779d3852b32ce8b1a1724dbf5217d-Paper.pdf

Decision making

Drift-diffusion models are really used as models of decision making! Milosavljevic, et al., The Drift Diffusion Model can account for the accuracy and reaction time of value-based choices under high and low time pressure https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1901533

But things might be more complicated! Zoltowski, et al., Discrete Stepping and Nonlinear Ramping Dynamics Underlie Spiking Responses of LIP Neurons during Decision-Making https://www.sciencedirect.com/science/article/pii/S0896627319303885

Technical aspects of the models

Chen and Gupta, EM Demystified: An Expectation-Maximization Tutorial https://vannevar.ece.uw.edu/techsite/papers/documents/UWEETR-2010-0002.pdf

---