Suggested further readings

McCullagh, P., & Nelder, J. A. (1989). Generalized linear models. Chapman & Hall.

Simoncelli, E. P., Paninski, L., Pillow, J., & Schwartz, O. (2004). Characterization of Neural Responses with Stochastic Stimuli. In M. S. Gazzaniga (Ed.), The Cognitive Neurosciences III (p. 327). The MIT Press.

Paninski, L. (2004). Maximum likelihood estimation of cascade point-process neural encoding models. Network: Comput. Neural Syst., 15, 243–262.

Truccolo, W., Eden, U. T., Fellows, M. R., Donoghue, J. P., & Brown, E. N. (2005). A Point Process Framework for Relating Neural Spiking Activity to Spiking History, Neural Ensemble, and Extrinsic Covariate Effects. Journal of Neurophysiology, 93(2), 1074–1089.

Pillow, J. W., Paninski, L., Uzzell, V. J., Simoncelli, E. P., & Chichilnisky, E. J. (2005). Prediction and decoding of retinal ganglion cell responses with a probabilistic spiking model. Journal of Neuroscience , 25 (47), 11003-11013.

Pillow, Jonathan W., Jonathon Shlens, Liam Paninski, Alexander Sher, Alan M. Litke, E. J. Chichilnisky, and Eero P. Simoncelli. "Spatio-temporal correlations and visual signalling in a complete neuronal population." Nature 454, no. 7207 (2008): 995-999.

Gerwinn, Sebastian, Matthias Bethge, Jakob H. Macke, and Matthias Seeger. "Bayesian inference for spiking neuron models with a sparsity prior." In Advances in neural information processing systems , pp. 529-536. 2008.

Zhao, M., & Iyengar, S. (2010). Nonconvergence in logistic and poisson models for neural spiking. Neural Computation, 22(5), 1231–1244.

Macke, Jakob H., Lars Buesing, John P. Cunningham, M. Yu Byron, Krishna V. Shenoy, and Maneesh Sahani. "Empirical models of spiking in neural populations." In Advances in neural information processing systems , pp. 1350-1358. 2011.

Park, I. M., & Pillow, J. W. (2011). Bayesian Spike Triggered Covariance Analysis. Advances in Neural Information Processing Systems (NeurIPS).

Park, M., & Pillow, J. W. (2011). Receptive Field Inference with Localized Priors. PLoS Computational Biology, 7(10), e1002219+.

Pillow, Jonathan W., and James Scott. "Fully Bayesian inference for neural models with negative-binomial spiking." In Advances in neural information processing systems , pp. 1898-1906. 2012.

Stevenson, I. H., London, B. M., Oby, E. R., Sachs, N. A., Reimer, J., Englitz, B., David, S. V., Shamma, S. A., Blanche, T. J., Mizuseki, K., Zandvakili, A., Hatsopoulos, N. G., Miller, L. E., & Kording, K. P. (2012). Functional connectivity and tuning curves in populations of simultaneously recorded neurons. PLoS Computational Biology, 8(11), e1002775.

Vidne, Michael, Yashar Ahmadian, Jonathon Shlens, Jonathan W. Pillow, Jayant Kulkarni, Alan M. Litke, E. J. Chichilnisky, Eero Simoncelli, and Liam Paninski. "Modeling the impact of common noise inputs on the network activity of retinal ganglion cells." Journal of computational neuroscience 33, no. 1 (2012): 97-121

McFarland, J. M., Cui, Y., & Butts, D. A. (2013). Inferring nonlinear neuronal computation based on physiologically plausible inputs. PLoS Computational Biology, 9(7), e1003143.

Shlens, Jonathon. "Notes on generalized linear models of neurons." arXiv preprint arXiv:1404.1999 (2014).

Park, I. M., Meister, M. L. R., Huk, A. C., & Pillow, J. W. (2014). Encoding and decoding in parietal cortex during sensorimotor decision-making. Nature Neuroscience, 17(10), 1395–1403.

Hardcastle, Kiah, Niru Maheswaranathan, Surya Ganguli, and Lisa M. Giocomo. "A multiplexed, heterogeneous, and adaptive code for navigation in medial entorhinal cortex." Neuron 94, no. 2 (2017): 375-387.

Weber, A. I., & Pillow, J. W. (2017). Capturing the Dynamical Repertoire of Single Neurons with Generalized Linear Models. Neural Computation, 29(12), 3260–3289.

Panzeri, S., Harvey, C. D., Piasini, E., Latham, P. E., & Fellin, T. (2017). Cracking the Neural Code for Sensory Perception by Combining Statistics, Intervention, and Behavior. Neuron, 93(3), 491–507.

Maheswaranathan, N., Kastner, D. B., Baccus, S. A., & Ganguli, S. (2018). Inferring hidden structure in multilayered neural circuits. PLoS Computational Biology, 14(8), e1006291.

Glaser, J. I., Benjamin, A. S., Farhoodi, R., & Kording, K. P. (2019). The roles of supervised machine learning in systems neuroscience. Progress in Neurobiology, 175, 126–137.

Latimer, K. W., Rieke, F., & Pillow, J. W. (2019). Inferring synaptic inputs from spikes with a conductance-based neural encoding model. eLife, 8.

Glaser, Joshua I., Raeed H. Chowdhury, Matthew G. Perich, Lee E. Miller, and Konrad P. Kording. "Machine learning for neural decoding." arXiv preprint arXiv:1708.00909 (2017).
