The Best Spike Filter Kernel is a Neuron

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SUBMISSION DETAILS

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Presentation Abstract Summary A common approach to extracting information from simulated spiking
neural networks is to train readouts on a spike-rate variable
obtained through convolution of output spike-trains with a filter.
Here we argue that best practice is to use neurons as spike
filters. We describe how neural circuits consist of stock and flow
variables that co-determine each other and argue that membrane
potentials provide access to the information contained in the
circuit in a more natural and unbiased way than filtered
spike-trains. We compare the two different approaches to readout
calibration in a classification task.

Compared to the submission paper the poster will include further illustrations clarifying the concepts and additional simulation results.

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