

# The Best Spike Filter Kernel is a Neuron

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## SUBMISSION DETAILS

**Presentation Type** Poster Presentation

**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.

**Paper Upload (PDF)** [ccn\\_submission\\_dick\\_final.pdf](#)

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## Keywords

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