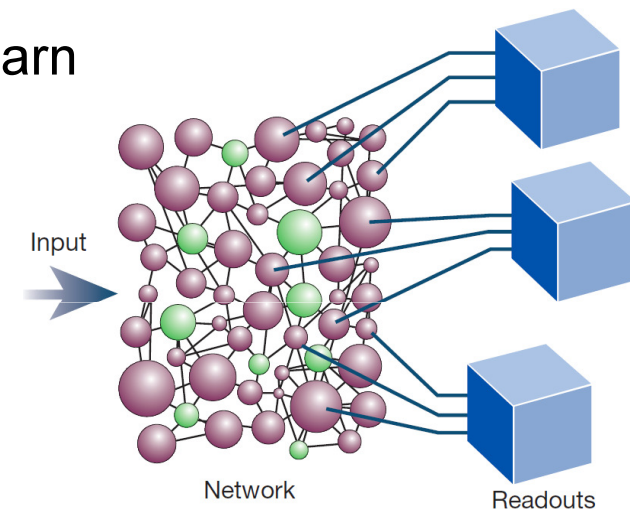


Replacing supervised classification learning by Slow Feature Analysis in spiking neural networks

Stefan Klampfl, Wolfgang Maass

- How can readouts of a cortical microcircuit learn to discriminate presynaptic firing patterns **without supervision**?
- We show that **Slow Feature Analysis** approximates the supervised classification capabilities of **Fisher's Linear Discriminant** given suitable input statistics:



*The **probability** that two successive samples in the input time series are from different classes has to be **small***

- **Application:** Generic cortical microcircuit models can learn **without supervision** to discriminate between spoken digits

Poster M21