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Neural hardware architectures for spatio-temporal data processing

Thursday 29 September 2016 14:00 (45 minutes)

The brain is characterized by extreme power efficiency, fault tolerance, compactness and the ability to develop and to learn.

It can make predictions from noisy and unexpected input data. Any artificial system implementing all or some of those features is likely to have a large impact on the way we process information. With the increasingly detailed data from neuroscience and the availability of advanced VLSI process nodes the dream of building physical models of neural circuits on a meaningful scale of complexity is coming closer to realization. Such models deviate strongly from classical processor-memory based numerical machines as the two functions merge into a massively parallel network of almost identical cells. The lecture will introduce current projects worldwide and discuss computational principles suited for the analysis of spatio-temporal patterns in large data volumes.

Presenter: MEIER, Karlheinz

Session Classification: Invited Talk