Chair for Integrated Systems
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Seminar

Brain-inspired Computing

The inner workings of the brain as a biological information processing system remain largely a mystery to science. Yet there is a growing interest in applying what is known about the brain to the design of novel computing systems, in part to explore hypotheses of brain function, but also to see if brain-inspired approaches can point to novel computational systems capable of circumventing the limitations of conventional approaches, particularly in the light of the slowing of the historical exponential progress resulting from Moore's Law. Although there are, as yet, few compelling demonstrations of the advantages of such approaches in engineered systems, a number of large-scale platforms have been developed recently that promise to accelerate progress both in understanding the biology and in supporting engineering applications. SpiNNaker (Spiking Neural Network Architecture) is one such large-scale example, and much has been learned in the design, development, and commissioning of this machine that will inform future developments in this area. This seminar topic will investigate this idea further.

Advisors

Armin Sadighi