University of Zurich[UZH]

Department of Economics – Neuroeconomics Seminar

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Giacomo Indivieri
University of Zurich

Neuromorphic electronic circuits for building artificial neural processing agents

Artificial intelligence (AI), fueled by neural networks and learning algorithms, has recently emerged as a successful technology for solving a wide range of complex tasks, including pattern recognition, scene segmentation, natural language processing, and automatic language translation. However, for many practical tasks that involve real-time interactions with the environment, conventional computing systems cannot match the performance of biological ones. One of the reasons is that the principles of computation used by nervous systems is radically different from those of today's computers. In this talk I will present "neuromorphic" electronic circuits that directly emulate the physics of computation used by biological neural processing systems, and show how they can be used to build brain-inspired computing technologies and autonomous cognitive agents for solving real-world tasks that require a close-loop real-time interaction with the environment.