Politecnico di Torino
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Riccardo Pignari

Riccardo Pignari is a Ph.D. student at Politecnico di Torino in Department of Control and Computer Engineering (DAUIN) and member of SmartData@Polito center. He obtained the B.Sc. in Physical Engineering and the M.Sc. in Physics Of Complex Systems, both at Politecnico di Torino, Italy. His main focus at the Electronic Design Automation (EDA) Group as a researcher is on neuromorphic and neuro-inspired computing.

Exploring Spiking Neuron Model behaviours through the Analysis of Parameter Space

ABSTRACT

The field of machine learning is rapidly gaining prominence on the IoT edge device. Within the domain of neuromorphics, the goal is to replicate the capabilities of the human brain and its fundamental processing unit, the neuron. Models that can capture the behaviors of neurons. Various methodologies has been employed to study the dynamics of these models. In this study we propose the **Neuronal Phase Map** (NePhaM). NePhaM provides a graphical representation of the neuro-computational features exhibited by spiking neuron models. By introducing NePhaM, this work presents a novel tool for visualizing and analyzing the computational properties of neural models across a range of parameter values. This approach aims to facilitate a deeper understanding of neural dynamics.