

ARTIFICIAL INTELLIGENCE

DAUIN - Digital Twins of Neuromorphic Neural Networks for the next generation of RISC-V systems

Funded By	Politecnico di TORINO [P.iva/CF:00518460019]
Supervisor	SAVINO ALESSANDRO - alessandro.savino@polito.it
Contact	SAVINO ALESSANDRO - alessandro.savino@polito.it DI CARLO STEFANO - stefano.dicarlo@polito.it
Context of the research activity	Develop models for the digital twins of neuromorphic neural network accelerators to support the design of next-generation low-power AI-based edge-computing systems.
Objectives	The growing need to transfer massive amounts of data among multitudes of interconnected devices has led to a quest towards low-power and secure approaches to local processing data. Neuromorphic computing, a brain-inspired approach, addresses this need by radically changing information processing. The Ph.D. aims to develop models for the digital twins of neuromorphic neural network accelerators to support the design of next-generation low-power AI-based edge-computing systems coupled with RISC-V-compliant interfaces for smooth adoption and programmability.
Skills and competencies for the development of the activity	The candidate should have a deep knowledge of modern computer architectures and master programming languages, including C/C++, Python, and Rust (optional). An initial understanding of RISC-V architectures is desirable. The candidate is requested to speak fluent English and be able to write essays in English.