



Politecnico
di Torino
SmartData@PoliTO



January 27th, 2025, 5:30 PM CEST

SmartTalk: Covivio, Sala Grande

<https://smartdata.polito.it/category/smarttalks/>



Gabriele Scaffidi Militone

Gabriele Scaffidi Militone completed his Master's Degree in Computer Engineering at Politecnico di Torino in 2023, with a thesis titled "Development of a microservice for Data Storage". Currently, he is a PhD student and a member of the DBDM research group and the SmartData@Polito center, where he focuses on investigating cloud continuum frameworks and applying machine learning techniques to advance this field.

Cloud continuum machine learning: towards cooperative solutions for heterogeneous clusters

ABSTRACT

The advent of the **cloud continuum** marks a significant step forward in computing, enabling the seamless integration of resources spanning edge, private, and public clouds. This paradigm shift offers significant opportunities. However, effectively orchestrating and optimizing job scheduling and resource utilization across heterogeneous clusters remains a complex challenge.

The presented work focuses on the design and development of a platform that enables cooperative usage of **heterogeneous clusters** by leveraging tools such as Kubernetes and Karmada to aggregate and efficiently utilize diverse resources. An advanced **scheduler** for Kubernetes – powered by heuristics, machine learning, and AI models – considers user requirements and metrics such as resource utilization, energy consumption, and usage patterns to ensure efficient and effective operation.

Smart
Talks

Season 5