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PIANO NAZIONALE
DI RIPRESA E RESILIENZA



Centro Nazionale di Ricerca in HPC,
Big Data and Quantum Computing

SAIFIN

Satellite data and Artificial Intelligence for FINtech

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Spoke 2 Progetti Bandi a Cascata, 04/10/2024

Project Overview

The **SAIFIN** project aims to develop an **AI-driven algorithmic trading system** that leverages both Artificial Intelligence (AI) and generative AI to identify financial trading strategies using data sourced from the web and satellite information.

By integrating **satellite data**, AI, and high-performance computing (**GPU**), the system enables nowcasting of key variables to enhance performance in **high-frequency trading (HFT)**, **short-term**, and **medium-to-long-term** trading scenarios.

The use of these technologies aims to optimize computational efficiency while adhering to **environmental standards**, reducing the consumption of primary resources.



Technical Objectives, Methodologies and Solutions

- The use of **satellite data** offers unique, real-time information on various economic and environmental factors that can **impact financial markets**. Analysis of satellite imagery can reveal activity in resource extraction areas, agriculture, construction, and even traffic in shopping centers, providing early indicators of economic performance.
- The use of **Deep Learning** and **Generative AI** offer data-driven insights uncovering trends, correlations and opportunities on **big data** volumes (satellite and web). This enables traders to respond rapidly to market changes.
- The use of **GPUs** for processing and analyzing large volumes of data from satellite images and the web enables the development of **real-time trading** strategies. This approach **efficiently and sustainably** leverages computational resources, allowing for faster and more accurate analysis to inform trading decisions.



Involved Staff and new recruitments

Preliminary budget: personnel, consultancy and licensing costs

Updated budget: only personnel, consultancy costs

	BUDGET APPLICAZIONE	BUDGET RIMODULATO
Personnel costs	146.400 €	146.400 €
Indirect costs	21.960 €	21.960 €
Consultancy	30.000 €	45.000 €
Licensing and hosting	15.000 €	
Materials		
TOT	213.360 €	213.360 €

Timescale, Milestones, SAL

WP	TASK	set-24	ott-24	nov-24	dic-24	gen-25	feb-25	mar-25	apr-25	mag-25	giu-25	lug-25	ago-25
							M1				M2		M3
WP1 – Studio e definizione della metodologia	Task 1.1: Studio e ideazione dei metodi e tecnologie AI per il sistema di trading												
WP2 - Sistema automatizzato di trading	Task 2.1 Progettazione del Sistema di Trading Algoritmico												
	Task 2.2: Test e validazione in ambiente di simulazione reale												

M1 – Trading system methods

M2 – First algorithm prototype

M3 – Validated algorithm



Thanks!