AI Propels Space: Training, Data, and Defense Redefined

Artificial intelligence is transforming how we explore, operate, and secure the final frontier.

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THE DATA

$1.4 Billion

In-Orbit Data Center Market

The market for in-orbit data centers is projected to reach up to $1.4 billion in 2026, driven by AI compute demand.

As terrestrial data centers face power and permitting constraints, the demand for AI compute is driving the rapid development of space-based data centers. Companies like Starcloud, Axiom Space, and SpaceX are deploying prototypes with high-performance GPUs and storage in orbit, with market projections indicating significant growth in this sector.

Source: The Private Banker · Published July 15, 2026

01

Immersive AI Simulations Revolutionize Astronaut Training

NASA is leveraging AI-driven simulation platforms, such as Virtuix's Omni One, for critical astronaut training. These full-body systems allow astronauts to experience and navigate virtual Martian terrains for extravehicular activities, offering realistic preparation for deep-space missions. This technology enhances mission readiness by providing immersive, repeatable, and adaptable training environments.

02

AI Secures Space: Enhanced Monitoring and Defense Capabilities

AI is becoming indispensable for space domain awareness and defense. Systems developed by WVU engineers use AI to autonomously track wildfires via satellite, while the U.S. Space Force is employing AI-powered mission rehearsal platforms like MENTAT. These advancements enable more rapid response to threats, improved satellite operations, and robust strategic planning in an increasingly complex orbital environment.

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