

Research Agenda for trustworthy AI4EO at scale!



AI multi-domains

Computer Vision
(e.g. novelty detection)

Time Series Analysis

Natural Language Process (NLP)

Sensor Enhancement (Super Res)

Data Science

Network Intelligence in Orbit (NIO)

Explainable (xAI)

AI Safety

Metaverse (w3.0, Blockchain)

Community Enabling

AI-ready Data Augmentation (Simulated, labelled, invariant)

AI engineering (MLOPs)

Challenges / Research Sprints

Digital Companion

Learning Paradigms

Supervised + Self-Supervised Learning

Graph Neural Network (GNN)

Transfer Learning (Domain Adaptation)

Federated / Edge Learning

Physics-Informed (PINNs)

Generative Learning (GANs)

Reinforcement Learning (RL)

Adaptative Learning / AutoML

Hybrid Computing

Edge Computing (TinyML)

Neuromorphic Computing (Spiking NNs)

Quantum Computing (QML)

Large-scale High Performance Computing (Scalable AI4HPC)

EO Multi-Domains

Sustainable Development (SDGs)

Digital Twins (DTE)

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Atmosphere (e.g. Air Quality)

Ocean (e.g. Floating Objects)

Cryosphere (e.g. sea-ice charting)

Land (e.g. Urban, Agriculture)

Soild Earth