

Development of Foundation Models and Construction of a Utilization Ecosystem on the Tellus Satellite Data Platform

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As Earth observation satellite data continues to grow, its importance for addressing global challenges increases. However, barriers such as limited accessibility, specialized knowledge requirements, and insufficient computational resources persist. Tellus, a satellite data platform operated by Tellus Inc., provides 44 types of satellite data with over 4 PB of total volume, serving more than 42,000 users and achieving 530,000 scene downloads annually as of 2023. Leveraging abundant GPU resources from the Sakura Internet Group, Tellus is developing foundation models trained on large-scale satellite data. These models enable easier adaptation to diverse applications that previously required individual development, expanding the user base significantly. Sustainable development requires public-private-academic collaboration: academia is expected to contribute through model development, sharing high-quality labeled datasets, and human resource development; government agencies through stable supply of public satellite data and standardization efforts. As a platform, Tellus connects data accumulation, model development, and application creation, facilitating industry participation. Through this positive cycle, Tellus aims to build a self-sustaining ecosystem for satellite data utilization, contributing to a sustainable society.

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