Earth Day – Franz Inc. and Geoscience Experts Recognize the Growing Importance of Semantic Knowledge Graphs for Earth Science

Semantically Linking Earth Observation Data Makes it FAIR for the Global Community of Geoscientists

In celebration of Earth Day, Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology for Knowledge Graphs, today recognized how AllegroGraph, its semantic knowledge graph technology, is playing an essential part in making data FAIR (Findable, Accessible, Interoperable and Reusable) for the geoscience community. Since the current understanding of earth science processes is largely based on earth observation and numerical model data, making this data FAIR for all geoscientists and technologists is critical to facilitate future knowledge discovery about planet Earth.

Collecting, storing, monitoring and
analyzing data from the core of the Earth up to the atmosphere provides
critical knowledge about the planet and how living things interact with it. Scientists
and technologists gather information about Earth from a range of sources,
including: satellites, air- ground- and ocean-based
sensors, physical sample data, etc., which are all recorded at a variety of
temporal and spatial resolutions and need to be represented on the web for the global

scientific community to access and use. AllegroGraph's unique semantic graph
capabilities allow diverse and complex data sources to be easily integrated
with full search and cross-dataset queries possible.

"Our
most pressing global environmental challenges cannot be solved by a single
organization," said Dr. Annie Burgess,
Lab Director, Earth Science Information Partners (ESIP). "Scientists require
data collected across multiple disciplines, which are often managed by many
different agencies and institutions. ESIP is a community of data and information
technology professionals dedicated to ensuring those data are FAIR. To assist
with that goal, the unique semantic graph capabilities of AllegroGraph are
leveraged with the ESIP Community Ontology Repository, a community platform to
manage and exchange terms and vocabularies that assists scientists to publish,
discover and reuse data."

"To
address important marine research, there is a critical need for ocean
observatories to share data in a way that is easy to discover, use and
integrate," said Carlos Rueda, Senior
Software Engineer, Monterey Bay Aquarium Research Institute. "With this goal in
mind, the Marine Metadata
Interoperability Project developed the MMI Ontology Registry and Repository

(ORR), which leverages AllegroGraph to provide powerful interoperable semantic
services that make the content on the web interconnected in a meaningful way
for both humans and machines to consume."

"We
are at an exciting stage where there is a critical mass of experts and
organizations around the globe with similar goals as well as the realization
that we need knowledge-intensive applications," said Dr. Lewis McGibbney, Data
Scientist, Jet Propulsion Laboratory, California Institute of Technology and Co-Chair of the NASA
ESDSWG Search Relevance Working Group. "The semantic technology stack is a crucial
piece for building intelligent apps for knowledge-intensive use cases within
the geoscience area."

"Semantic graph technology is particularly
well-suited to address the complex data integration, data access and analysis challenges
surrounding Earth data science," said Dr. Jans Aasman, CEO of Franz Inc. "We are thrilled that leading
geoscience organizations are tapping into the power of AllegroGraph to share Earth
science ontologies and data. We look forward to continuing to work with the
community and help forward their important projects."

A recent Gartner report explains the
importance of using semantic technology to drive value out of data and included
AllegroGraph as a graph database to consider for semantic technology solutions.
"Unprecedented levels of data scale and distribution are

making it almost
impossible for organizations to effectively exploit their data assets. Data and
analytics leaders must adopt a semantic approach to their enterprise data
assets or face losing the battle for competitive advantage." (Source: *Gartner, How to Use Semantics to Drive the
Business Value of Your Data, Guido De Simoni, November 27, 2018.)* To view a
summary of the report, go to https://www.gartner.com/doc/3894095/use-semantics-drive-business-value.

About ESIP
The Earth Science Information
Partners (ESIP) is a community of innovative science, data and information technology
practitioners. ESIP members catalyze connections across traditional
institutional and domain boundaries to solve critical Earth science data
stewardship, information technology and interoperability issues. Through this
work, ESIP improves Earth science data management practices and makes Earth
science data more discoverable, accessible and useful to researchers, policy
makers and the public. Learn more at esipfed.org or follow @ESIPfed on Twitter.

**About Monterey
Bay Aquarium Research Institute**

Monterey Bay Aquarium Research Institute (MBARI) encompass the entire ocean, from the surface waters to the dee seafloor, and from the coastal
zone to the open sea. The need to understand the ocean in all its complexity

and variability drives MBARI's research and development efforts.

About JPL

The Jet Propulsion Laboratory is a unique national research facility that
carries out robotic space and Earth science missions. JPL helped open the Space
Age by developing America's first Earth-orbiting science satellite, creating
the first successful interplanetary spacecraft, and sending robotic missions to
study all the planets in the solar system as well as asteroids, comets and
Earth's moon. In addition to its missions, JPL developed and manages NASA's
Deep Space Network, a worldwide system of antennas that communicates with
interplanetary spacecraft. JPL is a federally funded research and development
center managed for NASA by Caltech. From the long history of leaders drawn from
the university's faculty to joint programs and appointments, JPL's intellectual
environment and identity are profoundly shaped by its role as part of Caltech.

About AllegroGraph

AllegroGraph is a database technology that enables businesses to
extract sophisticated decision insights and predictive analytics from highly
complex, distributed data that cannot be uncovered with conventional databases.
Unlike traditional relational databases or other NoSQL databases, AllegroGraph

employs semantic graph technologies that process data with contextual and
conceptual intelligence. AllegroGraph is able run queries of unprecedented
complexity to support predictive analytics that help organizations make more
informed, real-time decisions. AllegroGraph is utilized by dozens of the top
F500 companies worldwide

Semantic Knowledge Graphs are the Foundation for Artificial Intelligence

The foundation for Knowledge Graphs
and AI lies in the facets of semantic technology provided by AllegroGraph.
Semantic Graph databases provide the core technology environment to enrich and
contextualized the understanding of data. The ability to rapidly integrate new
knowledge is the crux of the Knowledge Graph and depends entirely on semantic
technologies.

About Franz Inc.

Franz Inc. is an early innovator in
Artificial Intelligence (AI) and leading supplier of Semantic Graph Database
technology with expert knowledge in developing and deploying Knowledge Graph solutions.
The foundation for Knowledge Graphs and AI lies in the facets of semantic
technology provided by AllegroGraph and Allegro CL. The ability to
rapidly integrate new knowledge is the crux of the Knowledge Graph and Franz
Inc. provides the key technologies and services to address

your complex
challenges. Franz Inc. is your Knowledge
Graph technology partner.

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