

Navigating time in knowledge graphs

Franz's CEO, Jans Aasman, recently wrote the following article for InfoWorld.



The temporal benefits of cognitive knowledge graphs can affect almost any business problem, including basic issues of data management such as data quality, data cleansing, and integration

The concept of time presents several distinct challenges for data management, particularly as it applies to databases or stores. Those difficulties are related to the nature of time, which is ongoing, and its expressions in repositories. The former means data are relevant both at state (a point in time) and over periods of time, which increases the complexity.

[Read the Full Article](#)

Optimizing Fraud Management with AI Knowledge Graphs

From Global Banking and Finance Review – July 12, 2018

This article discusses Knowledge Graphs for Anti-Money

Laundering (AML), Suspicious Activity Reports (SAR), counterfeiting and social engineering falsities, as well as synthetic, first-party, and card-not-present fraud.

By compiling fraud-related data into an AI knowledge graph, risk management personnel can also triage those alerts for the right action at the right time. They also get the additive benefit of reusing this graph to decrease other risks for security, loans, or additional financial purposes.

Dr. Aasman goes on to note:

By incorporating AI, these threat maps yields a plethora of information for actually preventing fraud. Supervised learning methods can readily identify what events constitute fraud and which don't; many of these involve classic machine learning. Unsupervised learning capabilities are influential in determining normal user behavior then pinpointing anomalies contributing to fraud. Perhaps the most effective way AI underpins risk management knowledge graphs is in predicting the likelihood—and when—a specific fraud instance will take place. Once organizations have data for customers, events, and fraud types over a length of time (which could be in as little as a month in the rapidly evolving financial crimes space), they can compute the co-occurrence between events and fraud types.

Read the full article over at Global Banking and Finance Review.



Semantic Computing, Predictive Analytics Need Reliable Metadata



Our Healthcare Partners at Montefiore were interviewed at Health Analytics:

Reliable metadata is the key to leveraging semantic computing and predictive analytics for healthcare applications, such as

population health management and crisis care.

As the healthcare industry reaches the saturation point of electronic health record adoption, and slowly moves past the pain of the implementation process, it may seem like the right time to stop thinking so much about hammering home basic data governance principles for staff members and start looking at the next phase of health IT implementation: the big data analytics environment.

After all, most providers are now sitting on an enormous nest egg of patient data, which may be just clean, complete, and standardized enough to start experimenting with population health management, operational analytics, or even a bit of predictive risk stratification. Many healthcare organizations are experimenting with these advanced analytics projects in an effort to prepare themselves for the financial storm that is approaching with the advent of value-based care.

The immense pressure to cut costs, meet quality benchmarks, shoulder financial risk, and improve patient outcomes is causing no small degree of anxiety for providers, who are racing to batten down the hatches before the typhoon overtakes them.

While it may be tempting to jump into quick-win analytics that use “good enough” datasets to solve a specific pressing use case, providers may be at risk of repeating the same mistakes they made with slapdash EHR implementations: creating data siloes, orphaned reports, and poor quality datasets that cannot be used in a reliable, repeatable way for meaningful quality improvements.

Read the full article at [Health Analytics](#)

Making sense of big data: Data projects spur progress

From Managed Healthcare Executive:

The Montefiore Medical Center in Bronx, New York, has partnered with Franz, Inc., Intel, Cloudera, and Cisco to transform statistical databases, such as spreadsheets, into interactive graph databases that can be used to make better informed and predictive healthcare decisions.

Aasman “If you are in a hospital and have millions of patients, you will need to do analytics in many ways—for more personalized medicine, for predictive modeling, and for better business intelligence,” says Jans Aasman, PhD, CEO of Franz, Inc., which specializes in semantic web technologies. “This system allows you to get all the data together from these different silos for analytics.”

Semantic data lakes (SDLs) enable healthcare providers to use multiple types of data sets congruently to get a more comprehensive picture of population health trends, says Parsa Mirhaji MD, PhD, associate professor of Systems and Computational Biology and director of Clinical Research Informatics at the Albert Einstein College of Medicine and Montefiore Medical Center-Institute for Clinical Translational Research.

[Read the full article.](#)

Franz Inc. and The Wroclaw Institute of Spatial Information and Artificial Intelligence (The Wroclaw Institute) team up to deliver graph and A.I. solutions in Poland

A Wroclaw Institute News Release

OAKLAND, Calif. – March 15, 2016 – We are pleased to inform that Wroclaw Institute has been appointed as a partner by Franz Inc.– world’s leading producer of semantic graph technologies. The agreement grants to Wroclaw Institute exclusive right to sell Franz’s – AllegroGraph family of products for territory of Poland. AllegroGraph is best in class graph database, fully supporting W3C standards adopted by start-up’s as well as vast number of Fortune 100 companies. AllegroGraph is a part of Big Data ecosystem as it could be integrated with Apache Hadoop and Amazon EC2.

The Wroclaw Institute CEO – Dr. Adam Iwaniak said “Partnership with Franz Inc. is a turning point for our company as semantic graph technology is gaining a lot of market attention in ‘data tsunami’ era. We are happy that we will be able to provide our customers with award winning solution to help them manage their complex data resources. Moreover I’d like to emphasize that as a company we made a big progress in leveraging RDF graphs technologies also on our basic market – geoinformatics”.

“We are excited about the opportunity to work with Dr. Iwaniak

and the Wroclaw Institute team to demonstrate why Graph Databases deliver new, real time decision making capabilities for the Enterprise.” said Dr. Jans Aasman, CEO, Franz Inc., “Organizations across Poland will benefit from AllegroGraph’s ability to link highly complex data, generating new knowledge and insight for a significant competitive advantage.”

AllegroGraph is a database technology that enables businesses to extract sophisticated decision insights and predictive analytics from their highly complex, distributed data that can’t be answered with conventional databases. Unlike traditional relational databases, Franz’s product AllegroGraph employs a combination of semantic, graph and spatial technologies that process data with contextual and conceptual intelligence. AllegroGraph is able to run queries of unprecedented complexity to support predictive analytics that help companies make better, real-time decisions.

AllegroGraph is commonly used in defense and intelligence, banking, and insurance, pharmaceutical, and healthcare, Linked Data publishing, as well as by organization dealing with complex, constantly changing knowledge bases.

About Franz Inc.

Franz Inc. is a leading vendor of semantic technology tools featuring AllegroGraph – high-performance, scalable, disk-based graph database, provides the solid storage layer for powerful GeoTemporal Reasoning, Social Network Analytics and Ontology Modeling. Based in Oakland, California, Franz Inc. is an American owned company that delivers leading-edge development products that enable software developers to build flexible, scalable, semantic applications quickly and cost-effectively.

About The Wroclaw Institute

The Wroclaw Institute of Spatial Information and Artificial

Intelligence is Wroclaw, Poland based technology company focused on knowledge engineering, data exploration and intelligent GIS providing products, services and solutions based on cutting-edge scientific and technological achievements.

Related Links

- WIZIPISI dystrybutorem oprogramowania AllegroGraph
- Oprogramowanie bazodanowe AllegroGraph dostepne w Polsce
- Wroclaw Institute of Spatial Information and Artificial Intelligence

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Enriching Property Graphs with Relationship

Suppose we are creating a large graph database that contains information about payments between companies. A graph database analyst might start off modeling the payments as shown in Figure 1, which expresses who paid whom. (All graph figures in this article were produced using Gruff, a tool for visualizing graph databases, operating over the AllegroGraph graph database system.)



Figure 1: A Graph of a Payment

This seems straightforward enough. Now suppose that we want to record more information about payments, such as the amount of the payment, the means of payment (direct debit, e-check, wire, etc.), the date and time when the payment occurred, and so forth. A traditional property graph approach places these properties on the edge that connects the payor and payee nodes, as shown in Figure 2.

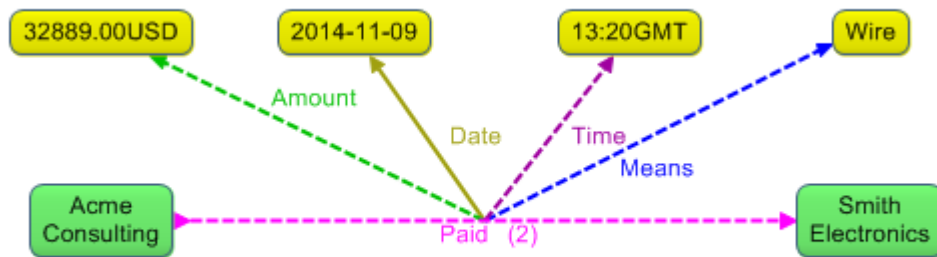


Figure 2: Attaching Properties to an Edge

Read the full blog post at [DB-Engines](#)

AllegroGraph Certification on Cloudera Enterprise Creates a Semantic Graph Data Platform for Hadoop

Leading Accountable Care Organization Gains Sophisticated Decision Insights from Complex, Distributed Big Data Using AllegroGraph and Cloudera Enterprise

OAKLAND, Calif. – February 8, 2016 – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology, today announced the

availability of AllegroGraph 6, the leading Semantic Graph Database with certification on the latest release of Cloudera Enterprise through the Cloudera Certified Technology Program (CCPT). AllegroGraph is the first Semantic Graph Database to be certified on Cloudera Enterprise, the global provider of the fastest, easiest, and most secure data management and analytics platform built on Apache Hadoop and the latest open source technologies.

The combination of AllegroGraph and Cloudera Enterprise eases the integration of highly complex Big Data, including large public datasets, and enables real-time analytics across distributed data, while leveraging the world's highest performance and most cost effective storage. Enterprises can run queries of unprecedented complexity to enable predictive analytics and real time decision-making within a myriad of industries including Healthcare, Life Sciences, Financial Services, Intelligence/National Security and Publishing. The hardened platform can run mission-critical applications that require uncompromised data resiliency using features like ACID compliance to ensure data is never lost.

"As the availability of large public datasets continues to rise, many organizations are looking to leverage these datasets to enrich enterprise analytics," said Tim Stevens, vice president of Business and Corporate Development at Cloudera. "A semantic graph approach to data sets provides a viable method to gleaning additional insights from data."

"Today's Big Data challenge is also a Cognitive Computing challenge," said Dr. Jans Aasman, CEO of Franz Inc. "We need to combine unstructured data with structured data to fuel real-time analysis, predictive analytics and deep learning. But the ease of data integration largely depends on the type of database. With the Semantic flexibility of AllegroGraph, integrating databases is a virtually effortless, since the data can remain in its original databases and database designers do not have to create a schema up front. This

capability is particularly valuable if organizations want to tap into the growing number of public datasets to enrich their analytics.”

The powerful combination of AllegroGraph and Cloudera plays a critical role in the Semantic Data Lake for Healthcare, a collaboration between Montefiore Health System (The leading Accountable Care Organization in the U.S), Franz, Cloudera, Cisco and Intel to provide a scalable and extensible Big Data Analytic platform for Healthcare. The SDL for Healthcare is a shared vision between Montefiore Health System and Franz, for constructing longitudinally integrated, semantically enriched, scalable and secured analytics infrastructure necessary for next generation learning healthcare systems, and precision medicine. The SDL deploys Montefiore’s innovative informatics solutions on Franz’s AllegroGraph and Cloudera’s Hadoop distribution, and enables modelers, data scientists and application developers to leverage complex information, biomedical knowledge-bases and ontologies, as well as the linked open data (LOD) for predictive modeling, care management, population and community health management, health systems research, and clinical and translational research.

“The Semantic Data Lake for Healthcare will help us to connect the dots to better understand the determinants of outcome, cost, and patient satisfaction in a complex ecosystem in which patients and clinicians interact with each other, with the delivery of care system, and with the research enterprise,” said Dr. Parsa Mirhaji MD. PhD., Director of Clinical Research Informatics at Einstein College of Medicine and Montefiore Health System. “The problem is, there are billions of such dots that needs to be connected meaningfully, and reproducibly. The complexity is that there are many different principles, pathways, and theoretical frameworks on how those dots would connect, and we just don’t know which model or framework would yield the best answer. The SDL will enable us

to address both the complexity, and scalability concerns efficiently, while maintaining a tight grasp on the semantic integrity and consistency of analysis over large, multi source, ever changing datasets.”

Dr. Mirhaji added, “The SDL embodies Montefiore’s incremental and measured approach towards Cognitive Computing in healthcare. Our ability to conduct real-time analysis over new combinations of data, to compare results across multiple analyses, and to engage patients, practitioners and researchers as equal partners in big-data analytics and decision support will fuel discoveries, significantly improve efficiencies, personalize care and ultimately save lives.”

“Information has always existed everywhere but has often been isolated, incomplete, unavailable or unintelligible,” according to Gartner. “Advances in semantic tools such as graph databases as well as other emerging data classification and information analysis techniques will bring meaning to the often chaotic deluge of information.” (Source: Gartner Identifies the Top Strategic Technology Trends for 2016.)

AllegroGraph has been widely recognized and endorsed within the industry as the popularity of Graph databases has skyrocketed – growing nearly 500% in the past two years. In 2015 AllegroGraph was named a Leading Database Solution by CIOReview and awarded Best in Semantic Web Technology & Leader in Graph Database Products by Corporate America. This year, PharmaTech Outlook has named Franz a Top Ten Solution Provider.

“Franz has been leading the burgeoning Graph Database revolution with a highly sophisticated, yet elegant Semantic Graph database solution,” said Harvi Sachar, Publisher & Founder, CIOReview. “Franz’s AllegroGraph continues to break new ground in predictive analytics and visual graph discovery capabilities- benefiting organizations around the globe within Healthcare, Intelligence/National Security, Life Sciences and

Financial Services.”

About AllegroGraph

Unlike traditional relational databases or Property Graph Databases, AllegroGraph employs semantic graph technologies that process data with contextual and conceptual intelligence. AllegroGraph is able to run queries of unprecedented complexity to support predictive analytics that help organizations make more informed, real-time decisions. AllegroGraph is the first Graph Database to support analysis across N-dimensions – any conceivable measurement of an object, property or operation. AllegroGraph can analyze temporal (time) and geospatial (location) dimensions relative to any ‘event,’ such as a disease, drug interaction, genetic combination, biomarkers, observations, image or physical sensors. AllegroGraph is utilized by dozens of the top Fortune 500 companies worldwide.

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 complex Big Data analytics solutions. AllegroGraph, Franz’s flagship, high-performance, transactional, and scalable Semantic Graph Database, provides the solid storage layer for Enterprise grade NoSQL solutions. AllegroGraph’s Activity Recognition capabilities provide a powerful means to aggregate and analyze data about individual and organizational behaviors, preferences, relationships, plus spatial and temporal linkages between individuals and groups. For additional Franz Inc customer success stories please visit:

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into Knowledge. We combine Data, Business Intelligence, and Analytics consulting services under one roof for our customers. Franz, an American owned company based in Oakland, California, is committed to market-driven product development, the highest levels of product quality and responsive customer support and service. Franz customers include dozens of Fortune 500 companies and span the healthcare, government, life sciences and telecommunications industries worldwide. Franz has demonstrated consistent growth and profitability since inception.

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AllegroGraph Recognized as Best in Semantic Web Technology – USA & Leader in Graph Database Products

Franz's AllegroGraph Fueling Rapid Growth in Graph Database Category

OAKLAND, Calif. – February 3, 2016 – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology has been recognized As “Best in Semantic Web Technology – USA & Leader in Graph Database Products” by Corporate America Software and Technology.

“At Corporate America, it’s our priority to showcase prominent professionals who are excelling in their industry and

outperforming their competitors,” said Hannah Stevenson, Managing Group Editor, AI Global Media. “Franz Inc. have a reputation for innovation, utilizing their expert knowledge to create complex and exciting Graph Database solutions. Franz’s unique platforms offer highly scalable technologies for solving complex Big Data challenges.”

Corporate America is the definitive magazine for CEOs, top tier management and key decision makers across the US. Created to inform, influence, and shape the corporate conversation across the nation through high quality editorial, in-depth research and an experienced and dedicated network of advisers, Corporate America provides its readership with the most authoritative and current analysis of the major changes effecting the corporate landscape, and the latest deals and topical issues dominating the corporate universe. A multifaceted program, the awards are focused on rewarding excellence across all areas of the technology and software industries and all nominees are closely scrutinized to ensure that only the most deserving receive Corporate America’s prestigious awards.

“We are excited that Graph Databases, like AllegroGraph, have garnered the attention they deserve by Enterprise customers looking to innovate,” said Dr. Jans Aasman, CEO, Franz Inc. “In today’s data-driven environments, the ability to quickly analyze data from diverse sources is becoming critical. We are already seeing how Semantic Graph Databases with predictive analytics can help transform healthcare through Precision Medicine and make us safer through Insider Threat Detection.”

“Because it (AllegroGraph) is a Graph database, it can store pretty much any kind of data and query it, not just in the time-worn relational fashion, but also in a graphical manner – carving out graphical maps of relationships. And on top of that, it can apply semantics to deduce as-yet-undiscovered knowledge from the data. Its capabilities are very broad, and they provide a glimpse of the shape of things to come,” added

Bloor. stated Robin Bloor, co-founder and Chief Analyst of The Bloor Group.

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A recent Forrester Research report stated, “Graph databases are a powerful optimized technology that link billions of pieces of connected data to help create new sources of value for customers and increase operational agility for customer service. Because graph databases track connections among entities and offer links to get more detailed information, they are well-suited for scenarios in which relationships are important, such as cybersecurity, social network analysis, eCommerce recommendations, dependence analysis, and predictive analytics.” (Source: Forrester Research, Market Overview: Graph Databases, May 28, 2015)

Franz’s recent announcement of the first Semantic Data Lake (SDL) for Healthcare, which was created in collaboration with Montefiore Medical Center (the eighth largest hospital group in the U.S.), Intel, Cloudera and Cisco. The SDL for Healthcare is a scalable and extensible Healthcare platform designed for Accountable Care and Personalized Medicine initiatives. AllegroGraph has played a critical role in the Semantic Data Lake for Healthcare, by facilitating integration of complex information for basic science, clinical, population, community, environmental, behavioral and wellness research data to enable knowledge-based analytics, classification, pattern recognition, predictive modeling and simulations at scale.

About Corporate America

Corporate America is more than just a magazine. Alongside our quarterly publication, we also produce a website that is regularly updated with the latest news, features, opinion and comment, again in conjunction with a host of top-level advisers, experts and businesspeople, and throughout the year, you'll also get your chance to participate in our highly regarded awards programs, designed to pay tribute to the finest firms and individuals on the American business landscape.

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**Franz's Vice President of
Corporate Development to
Keynote at the 11th**

International Knowledge Management in Organizations Conference (KMO 2016)

OAKLAND, Calif. – February 2, 2016 – Franz Inc.'s Vice President of Corporate Development, Dr. Sheng-Chuan Wu, will be a keynote speaker at the 11th International Knowledge Management in Organizations Conference (KMO 2016) this July in Hagen, Germany. Knowledge Management is in the midst of a revolution. Traditional KM approaches have failed to meet the challenges posed by Big Data, mobility, social media, and customer demands. That's because the knowledge critical for customer service is everywhere, and new approaches are required to tap into its value. Continuing the success of the KMO conference series since 2005, the KMO 2016 conference will provide an international communication forum bringing together academia and industry for discussing the progress made and addressing the challenges faced by knowledge management.

Dr. Wu's talk, "Why Knowledge when Data Suffices"

According to the classic knowledge pyramid, we turn the data we collect into information by applying its context. We then interpret the information to derive knowledge from it. Our efforts on the management of knowledge stem from our belief that knowledge is what provides value to our endeavors. Is this paradigm still true with the explosive growth in Big Data? One of the most obvious examples is Google Translate. Despite employing machine learning on the massive multilingual text data instead of natural language understanding algorithms, Google Translate outperforms traditional natural language processing (NLP) methods when it comes to translation. Medical science is another potential example. Since the sequencing of the human genome in 1996, we have dreamed about treating patients more effectively based on

their genomic profile. Such a dream remains elusive due to the complexity of system biology. On the other hand, major progress can be made in “targeted medicine” with machine learning on the massive patient medical data accumulated. In essence, we can uncover ways to directly help patients from the data without precisely knowing how it works exactly. Using Big Data to derive value brings another set of management problems, namely the heterogeneous nature of data sources and taxonomies, the massive volume of data, and the analytic processing requirements. Dr. Wu will discuss all these issues and show some examples at this talk.

About Dr. Wu

Dr. Sheng-Chuan Wu received his Ph.D. in Scientific Computing and Computer Graphics from Cornell University in the US. He has, since graduation, involved in several software companies, including the founding of the first integrated CAD/CAM/CAE company. In the last 20 years, he worked as a senior corporate executive at the leading Artificial Intelligence and Semantic Technology company, Franz Inc in Silicon Valley, with responsibility in application development, marketing, consulting and new business development. Dr. Wu has also in many occasions collaborated with Bioinformatics experts from Harvard Medical School, Stanford University and Astra Zeneca, working with massive biological data.

Dr. Wu has been focusing on Semantic Technology over the last 8 years. He routinely lectured on AI and Semantic Technology at conferences. He has, since 2007, conducted more than 20 week-long workshops on Semantic Technology and Artificial Intelligence in Malaysia, China, Singapore, India and other Asian countries. Dr. Wu has also consulted on several Big Data and Semantic Technology projects in the US and Asia. Some of the projects include: Biodiversity Repository, Precision Agriculture for Citrus Plantation, Telecom Customer Relation Management, Malaysia R&D Knowledgebase, Intelligence analytics, Meta Data Management, Smart City and E-Learning

System.

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AllegroGraph Recognized Among Top 10 Analytics Solution Providers by Pharma Tech Outlook

Franz's AllegroGraph powers Pharma Analytics for Sophisticated Decision Insights from Complex, Distributed Big Data

OAKLAND, Calif. – January 28, 2016 – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology has been named to Pharma Tech Outlook's Top 10 Analytics Solutions Providers for 2016.

"Franz Inc. has been selected as a Top 10 Analytics Solution Provider after careful evaluation across a dozen quantitative and qualitative elements," said Stacey Smith, Editor of Pharma Tech Outlook. "Our selection process takes into consideration a company's experience, industry recognition, technical certifications, market presence and positive client reviews. Franz Inc. and their Semantic Graph Database, AllegroGraph, are clear market leaders for Analytics in the Pharmaceutical Industry."

Pharma Tech Outlook covers the latest developments in the pharmaceutical industry. They provide valuable updates – news, views and trends, expert opinions, studies, discoveries, R&D and clinical trials – essential for decision-makers in the industry. Covering all the novel outcomes, Pharma Tech Outlook aims at contributing to the transformation of innovations into services as well as creating a healthy and productive society.

Pharma Tech Outlook's "Top 10 Analytics Solution Providers"

are selected annually by a panel of experts and members of Pharma Tech Outlook's editorial board to recognize and promote technology entrepreneurship.

"Using AllegroGraph, Enterprises can run queries of unprecedented complexity to enable predictive analytics and real time decision-making within a myriad of industries including Healthcare, Life Sciences, Financial Services, and Publishing," said Jans Aasman, CEO of Franz Inc. "Integrating databases is a virtually effortless which is particularly valuable if organizations want to tap into the growing number of public datasets to enrich their analytics."

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About Pharma Tech Outlook

Pharma Tech Outlook is an online and a monthly magazine which covers most important and latest developments in the pharmaceutical industry. Through nominations and consultations with industry leaders, its editors choose the best in Pharma domains. Pharma Tech Outlook's December-January Edition is an annual listing of Top 10 Analytics Solution Providers. For more information, visit the website at: <http://www.pharmatechoutlook.com/>

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