

What is the Answer to AI Model Risk Management?

Algorithm-XLab – March 2019

Franz CEO Dr. Jans Aasman Explains how to manage AI Modelling Risks.

AI model risk management has moved to the forefront of contemporary concerns for statistical Artificial Intelligence, perhaps even displacing the notion of ethics in this regard because of the immediate, undesirable repercussions of tenuous machine learning and deep learning models.

AI model risk management requires taking steps to ensure that the models used in artificial applications produce results that are unbiased, equitable, and repeatable.



The objective is to ensure that given the same inputs, they produce the same outputs.

If organizations cannot prove how they got the results of AI risk models, or have results that are discriminatory, they are subject to regulatory scrutiny and penalties.

Strict regulations throughout the financial services industry in the United States and Europe require governing, validating, re-validating, and demonstrating the transparency of models for financial products.

There's a growing cry for these standards in other heavily regulated industries such as healthcare, while the

burgeoning Fair, Accountable, Transparent movement typifies the horizontal demand to account for machine learning models' results.

AI model risk management is particularly critical in finance.

Financial organizations must be able to demonstrate how they derived the offering of any financial product or service for specific customers.

When deploying AI risk models for these purposes, they must ensure they can explain (to customers and regulators) the results that determined those offers.

Read the full article at [Algorithm-XLab](#).

Semantic Web and Semantic Technology Trends in 2019

Dataversity – January 2019

What to expect of Semantic Web and other Semantic Technologies in 2019? Quite a bit. DATAVERSITY engaged with leaders in the space to get their thoughts on how Semantic Technologies will have an impact on multiple areas.

Dr. Jans Aasman, CEO of Franz Inc. was quoted several times in the article:

Among the semantic-driven AI ventures next year will be those that relate to the healthcare space, says Dr. Jans Aasman, CEO of Semantic Web technology company Franz, Inc:

“In the last two years some of the technologies were starting

to get used in production,” he says. “In 2019 we will see a ramp-up of the number of AI applications that will help save lives by providing early warning signs for impending diseases. Some diseases will be predicted years in advance by using genetic patient data to understand future biological issues, like the likelihood of cancerous mutations – and start preventive therapies before the disease takes hold.”

If that’s not enough, how about digital immortality via AI Knowledge Graphs, where an interactive voice system will bring public figures in contact with anyone in the real world? “We’ll see the first examples of Digital Immortality in 2019 in the form of AI Digital Personas for public figures,” says Aasman, whose company is a partner in the Noam Chomsky Knowledge Graph:

“The combination of Artificial Intelligence and Semantic Knowledge Graphs will be used to transform the works of scientists, technologists, politicians, and scholars like Noam Chomsky into an interactive response system that uses the person’s actual voice to answer questions,” he comments.

“AI Digital Personas will dynamically link information from various sources – such as books, research papers, notes and media interviews – and turn the disparate information into a knowledge system that people can interact with digitally.” These AI Digital Personas could also be used while the person is still alive to broaden the accessibility of their expertise.

On the point of the future of graph visualization apps, Aasman notes that:

“Most graph visualization applications show network diagrams in only two dimensions, but it is unnatural to

manipulate graphs on a flat computer screen in 2D. Modern R virtual reality will add at least two dimensions to graph visualization, which will create a more natural way to manipulate complex graphs by incorporating more depth and temporal unfolding to understand information within a time perspective.”

Read the full article at [Dataversity](#).

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](#).



The Cornerstone of Data Science: Progressive Data Modeling

From AI Business June 27, 2018

This article covers Single Schema, Universal Taxonomies, Time Series Analysis, Accelerating Data Science and features some thought leadership from Franz Inc.'s CEO, Jans Aasman:

'Contemporary data science and artificial intelligence requirements simply can't wait for this ongoing, dilatory process. According to Jans Aasman, CEO of Franz, they no longer have to. By deploying what Aasman called an "events-based approach to schema", companies can model datasets with any number of differences alongside one another for expedited enterprise value.'

'The resulting schema is simplified, uniform, and useful in multiple ways. "You achieve two goals," Aasman noted. "One is you define what data you trust to be in the main repository to have all the truth. The second thing is you make your data management a little more uniform. By doing those two things your AI and your data science will become better, because the data that goes into them is better."'

Dr. Aasman goes on to note:

'The events-based schema methodology only works with enterprise taxonomies—or at least with taxonomies spanning the different sources included in a specific repository, such as a Master Data Management hub. Taxonomies are necessary so that "the type of event can be specified," Aasman said.'

'Moreover, taxonomies are indispensable for clarifying terms and their meaning across different data formats, which may

represent similar concepts in distinct ways. Therefore, practically all objects in a database should be “taxonomy based” Aasman said, because these hierarchical classifications enable organizations to query their repositories via this uniform schema.’

Read the full article over at AI Business.



New York Times Article – Is There a Smarter Path to Artificial Intelligence?

From the New York Times – June 20, 2018

This article caught our attention because they featured a startup that was using Prolog for AI. We have been strong proponents of Prolog for Semantic Graph solutions for many years.

For the past five years, the hottest thing in artificial intelligence has been a branch known as deep learning. The grandly named statistical technique, put simply, gives computers a way to learn by processing vast amounts of data. Thanks to deep learning, computers can easily identify faces and recognize spoken words, making other forms of humanlike

intelligence suddenly seem within reach.

Companies like Google, Facebook and Microsoft have poured money into deep learning. Start-ups pursuing everything from cancer cures to back-office automation trumpet their deep learning expertise. And the technology's perception and pattern-matching abilities are being applied to improve progress in fields such as drug discovery and self-driving cars.

But now some scientists are asking whether deep learning is really so deep after all.....

.....Those other, non-deep learning tools are often old techniques employed in new ways. At Kyndi, a Silicon Valley start-up, computer scientists are writing code in Prolog, a programming language that dates to the 1970s. It was designed for the reasoning and knowledge representation side of A.I., which processes facts and concepts, and tries to complete tasks that are not always well defined. Deep learning comes from the statistical side of A.I. known as machine learning.

Our Tweet with links to AllegroGraph Prolog documentation and the full article:

nytimestech “computer scientists are writing code in **#Prolog**... It was designed for the reasoning and knowledge representation side of **#AI** ...” <https://buff.ly/2lmYwkv> – **#AllegroGraph** is the only **#GraphDatabase** to include **#Prolog** for your AI apps. <https://buff.ly/2yv0IzF>

How AI Boosts Human Expertise at Wolters Kluwer



Wolters Kluwer, a long time AllegroGraph customer, recently spoke with Alex Woodie at Datanami to describe how they are using AI tools such as AllegroGraph:

Thousands of companies around the world rely on Wolters Kluwer's practice management software to automate core aspects of their businesses. That includes doctor's offices that use its software make healthcare decisions in a clinical setting, corporate law offices that use its software to understand M&A activities, and accounting firms that use its software to craft tax strategies for high net-worth clients.

Wolters Kluwer is embedding a range of AI capabilities – including deep learning and graph analytics – across multiple product lines. For example, its Legalview Bill Analyzer software helps to identify errors in legal bills sent from outside law firms to the corporate counsels of large companies. The typical recovery rate for people reviewing bills manually is 1% to 2%. By adding machine learning technology to the product the recovery rate jumps to 7% to 8%, which can translate into tens of millions of dollars.

*Wolters Kluwer is using graph analytic techniques to accelerate the knowledge discovery process for its clients across various professions. **The company has tapped Franz's AllegroGraph software** to help it drive new navigational tools for helping customers find answers to their questions.*

*By arranging known facts and concepts as **triples in the AllegroGraph database** and then exposing those structures to users through a traditional search engine dialog box, Wolters*

Kluwer is able to surface related insights in a much more interactive manner.

*“We’re providing this live feedback. As you’re typing, we’re providing question and suggestions for you live,” Tatham said. **“AllegroGraph gives us a performant way** to be able to just work our way through the whole knowledge model and come up with suggestion to the user in real time.”*

Read the full article over at Datanami.