

AI/ML using Allotrope



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Presentation Overview



Standardized Ontologies

Standardized ontologies play a vital role in contextualizing instrument data with other data sources in AI-LLM for knowledge management.

Predictive Models (Use-cases)

AI-ML can predict the outcome of reaction or bioprocessing experiments or batches. Current standards are sufficient to build predictive models.

Encouraging Expertise

We will address the question of how to encourage data scientist personas with familiarity with Allotrope products and standards to participate in discussions to ensure we have suitable expertise.

Successful Data Products

We will provide observations on the approach we can take to make successful data products for AI/ML applications.

AI-LLM for Knowledge Management



Standardized Ontologies

Standardized ontologies are crucial for effective AI-LLM in knowledge management. It helps to maintain consistency and reliability in the model's output.

Contextualization of Data

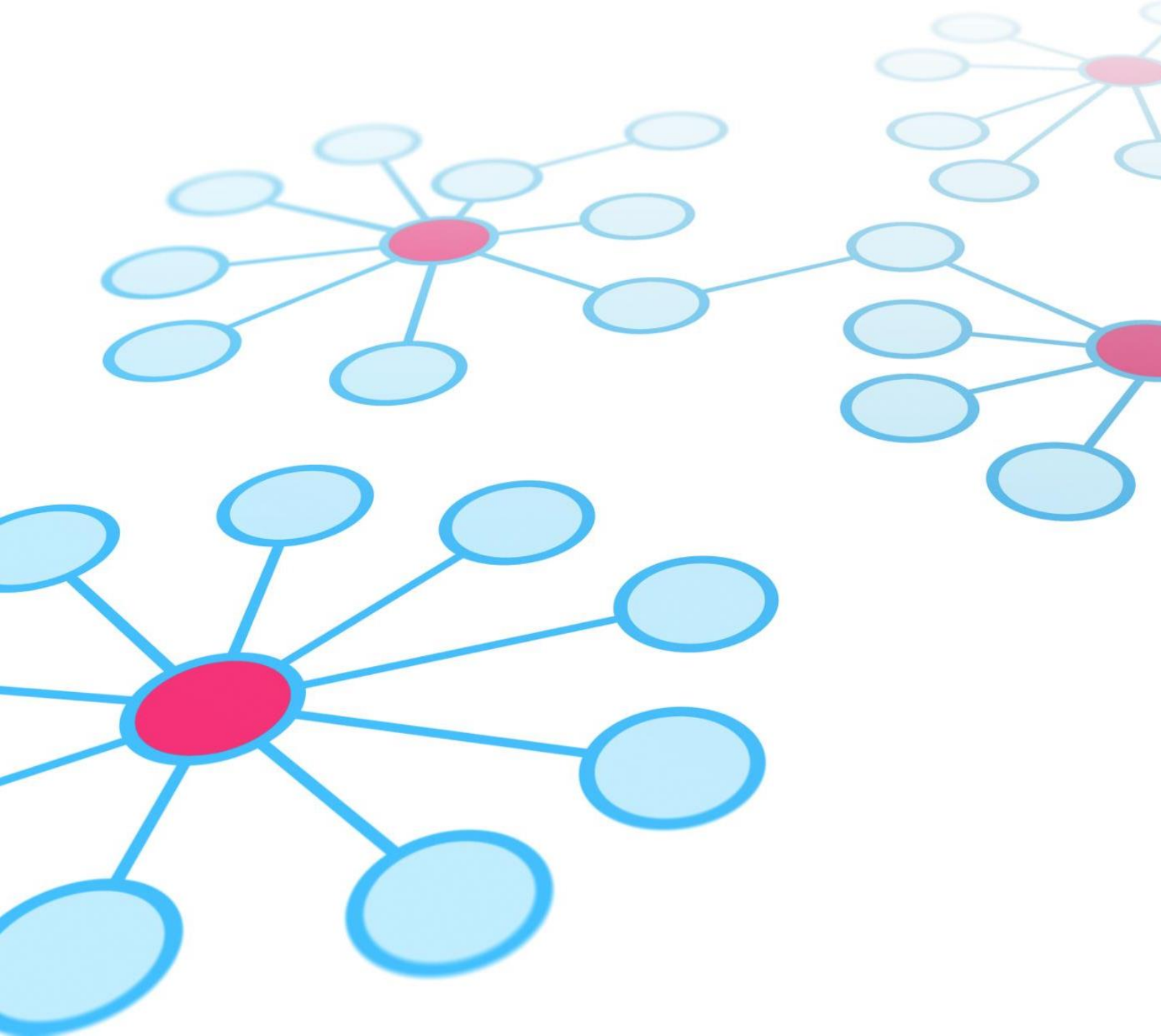
Contextualization of the instrument data with other data sources is essential for accurate AI-LLM in knowledge management. It enables the model to provide insights that are more meaningful and actionable.

Constant Tuning

There has to be constant tuning of the model for effective AI-LLM in knowledge management. It helps to improve the accuracy of the model and ensure that it provides insights that are relevant and useful.

Feeding the Model

Feeding the model with relevant and up-to-date data is crucial for effective AI-LLM in knowledge management. It helps to ensure that the model is accurate and provides meaningful insights.



Standardised Ontologies

Standardised ontologies are essential in AI-LLM to ensure the consistency of data and facilitate easy sharing and reuse. Ontologies can also create a common vocabulary for data, enabling more effective communication between different systems and applications.

Contextualization of Instrument Data

Contextualization of instrument data with other data sources is essential to provide insights into the data and to improve the accuracy of the model. It can help to provide a more complete picture of the data and identify patterns that may not be visible with instrument data alone.



AI-ML Predictive Models

Predictive Models in AI-ML

Predictive models in AI-ML can accurately predict the outcome of reaction or bioprocessing experiments, enabling faster decision-making and reducing the need for trial-and-error experimentation.

Standards for Building Predictive Models

The current standards for building predictive models in AI-ML are sufficient and enable the development of accurate and reliable models for decision-making.



Encouraging Data Scientists to Participate

Creating a Forum

Creating a forum with our customers is a great way to encourage data scientists to participate and discuss Allotrope products and standards.

Marketing Material

Sending material to the group can prime them on AFO and ASM, thereby encouraging them to participate in the discussion.





Observations

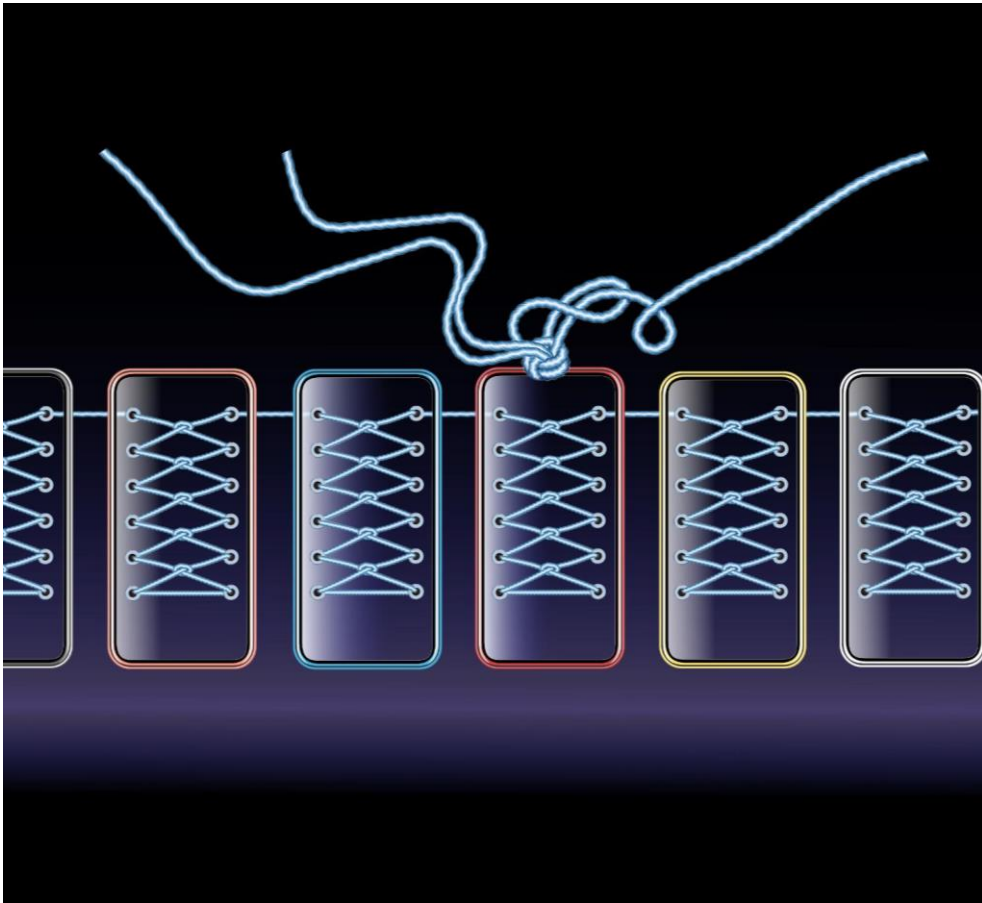
Allotrope Standard

The Allotrope standard needs to be made more AI/ML friendly.

Data Products for AI/ML Applications

Approaches need to be identified for making successful data products for AI/ML applications using ASM files. These approaches should be specific to the needs of data scientists.

Conclusion



Importance of AI/ML using Allotrope Standards

AI/ML using Allotrope Standards is important in knowledge management and predictive modeling.

Standardized Ontologies

Standardized ontologies and contextualization of the instrument data with other data sources are crucial in AI-LLM.

Sufficiency of Current Standards

The current standards are sufficient to build predictive models.

Encouraging Data Scientist Personas

We should encourage data scientist personas to participate and explore other approaches that don't impact the Allotrope standard but provide patterns for how to make successful data products for AI/ML applications using ASM files.