

Reinventing analytic systems to unify and analyze the world's data

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Introduction:

Analytics is broken.

Enterprises are unable to keep up with large amounts of complex data. As a result, a vast majority of their data is not analyzed⁽¹⁾. Enterprises are frustrated that they are unable to derive timely, semantically accurate, deep insights to make robust data driven decisions.

Progress in various technologies, including artificial intelligence, allows us to reinvent analytic systems to change the current narrative. In this article, we discuss how we at Aabhra are reinventing analytic systems to help enterprises analyze all their data quickly and accurately.

Analytic challenges faced by enterprises:

Enterprises spend millions of dollars each year on procuring data from different data providers and domains. By nature, all of this data is not compatible and enterprises end up using siloed subsets of data for their decision making. Unanalyzed data contains signals that could help them foresee impending issues, allow them to craft new streams of revenue and more.

Analytic challenges faced by analysts/data scientists:

Analysts in enterprises are expending a majority of their effort on digital janitorial work⁽²⁾. This includes data wrangling and other preparatory work necessary to get data ready for analysis. This is followed by extensive coding before finally performing analysis.

Analysts want to work with a unified view of the world's data to derive deep insights from cross industry signals to answer complex questions, instead of having to work with siloed subsets.

In addition, analysts do not have any platform support for semantic validation of their analysis. Today's analytic platform cannot flag semantically inaccurate operations such as adding an individual's salary to the GDP of a country, on any data from any domain.

The future of analytics:

For enterprises to realize their full potential, an analytics platform that unifies the world's data and helps semantically analyze them in a timely manner is critical. The future of analytics will belong to *systems that understand the semantics of data automatically, much like humans do*

To build such systems, we need to *change the way we view data*. Today, we view data as values, void of semantics. We inject semantics via code, configuration, metadata and other janitorial ways. We need an alternative way of viewing data that systems can automatically leverage.

Data has genetic properties:

Data has intrinsic genetic properties that allow it to be naturally classified, unified and semantically analyzed. An analytics platform *must process the intrinsic genetic properties along with the data and derive new data with its own intrinsic genetic properties.*

Role of ontologies:

Ontologies provides a classification system and define relationships between entities in the classification system. By classifying data using their intrinsic genetic properties in an ontology, relationships between data across domains are inferable. *This provides the basis for accurately and quickly unifying the world's data.* Ontologies also provide a basis for dynamically inferring algebras that define compatibility of data relative to various operations.

An analytics platform must leverage ontologies and intrinsic genetic properties of data, along with AI, to understand the semantics of data automatically and to ensure semantic accuracy along every step of analysis.

The solution:

At Aabhra we have built AI solutions that infer the intrinsic genetic properties of data, or DataGenes™, from across domains quickly and without having to access or process all data.

We have also built an ontology, called the Sarvam ontology. Sarvam in Sanskrit means “everything”. The Sarvam ontology contains ontological definition from the financial and weather domain, consistent with the needs of our initial audience: analysts in the financial sector. Soon the Sarvam ontology will contain ontological definitions from across domains. Data is associated with and unified by the Sarvam ontology based on their DataGenes™.

Aabhra’s AI analytics platform leverages DataGenes™ and the Sarvam ontology to understand the semantics of data across domains automatically and to perform semantically accurate analysis of any complexity in a timely manner.

The implication:

Aabhra enables analysts to easily unify any data from any domain for their analysis without the need for digital janitorial work and coding. *Analysts will now be able to just express their analytic intent*, without coding and have Aabhra execute the intended analysis in a timely and semantically accurate manner across data from various domains. Enterprises and analysts can finally get ahead of the world’s data and derive deep insights for robust data driven decisions.

Contact info:

To get more insights or if you are interested in trying, using or partnering with Aabhra, please contact Partha Nageswaran at partha@aabhra.com.

(1) <https://ieeexplore.ieee.org/abstract/document/9862807>

(2) <https://www.anaconda.com/resources/whitepapers/state-of-data-science-report-2022/>