DATA SHEET

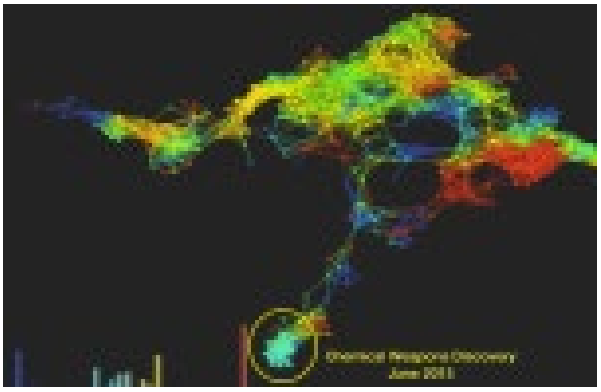
Cognitive Offload for World Event Monitoring using Similarity Detection

Topological data analysis (TDA) is a new category of AI that converts data into meaningful shapes which surface insights allowing traditional machine learning practitioners a deeper understanding of large complex datasets, models based on those datasets and the overall phenomena depicted by the data.

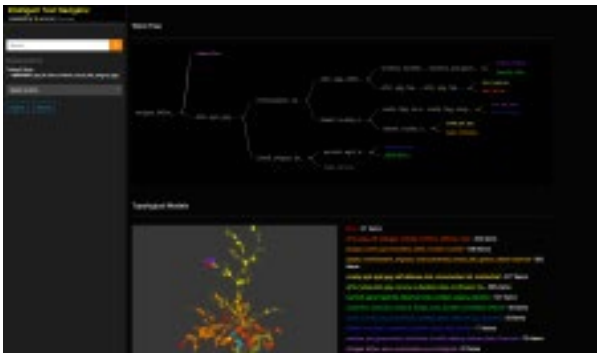
This technology can be used to greatly reduce the cognitive demands imposed upon today's OSINT analysts studying world events. Most world events generate hundreds or thousands of similar news articles. But how do you group those articles intelligently so that analysts can be confident they don't have to read a thousand articles all conveying the same basic storyline?

Clustering is a well-known unsupervised learning approach to grouping rows of data by the similarity of their features or columns. Unfortunately, clustering has diminishing returns as data becomes more complex.
Within text analytics, concept clustering is based on entity extraction of well known concepts tracked by the use of manicured ontologies. Upon ingest, documents are indexed with major concepts extracted for quick retrieval. This technique fails when searches match hundreds or thousands of documents that are all devoted to a similar topic. This requires the analyst to rely on faceted navigation for filtering items of interest.

SymphonyAI's topological data analysis is likely the only data analysis method that becomes better at identifying novel signals as the feature set of data grows. The application of TDA to unstructured text greatly reduces the cognitive load on OSINT analysts because it can group world events intelligently so that analysts can confidently assess unique events or topics over time. For example, rather than clicking through 24 pages of search results, a world event could occupy a small graphic on an intelligent timeline and be compared with similar events over time.



This new category of machine intelligence has been successfully used in fraud detection, cybersecurity, disease discovery, clinical variation management, Air Force suicide prevention as well as a growing body of basic research literature from all over the world



Download our whitepaper to learn more about TDA and machine learning

About SymphonyAI

SymphonyAI is building the leading enterprise AI company for digital transformation across the most important and resilient growth verticals, including life sciences, healthcare, retail, consumer packaged goods, financial services, manufacturing, and media. In each of these verticals, SAI businesses have many of the leading enterprises as clients. SAI is backed by a $1 billion commitment from Dr. Romesh Wadhwani, a successful entrepreneur and philanthropist. Since its founding in 2017, SymphonyAI has grown rapidly to a combined revenue run rate of more than $300 million and over 2,200 talented leaders, data scientists, and other professionals.

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