

SavantX Platform

A.I. Search and Discovery powered by Autonomous Higher Dimensional Machine Learning

A.I. is only as good as the Machine Learning (ML) that feeds it. SavantX A.I. relies on an unbiased purely mathematical approach to Machine Learning free of semantics. It accomplishes this by “thinking” in higher dimensions.

Ground-Breaking Brain Architecture Research Validates SavantX’s Approach

SavantX’s core patent pending technology is patterned on the belief that brain processes and learning occur in higher dimensions.

Leading scientific research published in 2017 supports this hypothesis. The study discovered that the brain operates on up to 11 different dimensions.

The findings were published in the journal *Frontiers in Computational Neuroscience*. The peer reviewed study suggests that the brain starts with simple, 1D-3D geometries, but then scaffolds up to more complex geometries such as 4D, 5D, etc. to process information before they disintegrate into nothing. SavantX routinely “thinks” in 5D and higher.

Search

SavantX’s search functions include:

- ✘ Natural language querying – search for data using everyday language instead of a programming/querying language
- ✘ Search for documents by date, filename, file type, native metadata, as well as text appearing in documents
- ✘ Powerful data visualization interfaces allow user to navigate their result set through multiple views
- ✘ Easy to use filtering options, including: date, file type, origin database, and more
- ✘ Search suggestions based on input (non-forced spellchecker)
- ✘ Search hints display terms relating to user’s search input (related terms derived from system A.I.)
- ✘ Preservation of native metadata to include permissions (access and visibility) of documents with security provisioning
- ✘ Dynamic clustering and identification of documents and data relating to original search terms
- ✘ Search results each feature a passage of interest – a large snippet from the document relating to the user’s search terms (bolded), helping

the user rapidly find and evaluate the relevance of each document in the return set

- ✘ Page-based and context sensitive result set further assist user in pinpointing the page in the document relating to their query, even in 10,000+ page documents

Graphical User Interface (GUI)

The various GUIs that SavantX uses allows the user to quickly navigate their results to find the exact document/passages they're looking for. These features include:

- ✘ Search interface – a Google-like view into result set: emulate the UI/UX of the ubiquitous search engine while adding powerful sorting and filtering options (date, page count, file type, etc.)
- ✘ A.I. Navigator interface – an interactive 3D view into the result set: give the user the tools to navigate the result set through this abstracted layer using a dynamic model that visualizes clustering of related terms/data in that result set. This interface affords the user a rich toolset used to select, sub-select, and compare data relationships displayed in this 3D view
- ✘ Discover tree – A collapsible tree-like visualization of the most relevant terms, concepts, key phrases, and identifiers found in the result set
- ✘ Contextual excerpts (with relevant-term bolding) help the user quickly assess the relevance of each returned item without needing to

directly access the original document

- ✘ De-duplication of results by default (can be toggled off by the user)
- ✘ Page number (and total page count) provided for each result
- ✘ Stemming of search terms, checking for misspellings, wild-card queries, and A.I.-based interpretation of search queries assist in producing an optimal return set for all user queries
- ✘ User and administrator-based customization for all search interfaces allowing them the 'look and feel' of their choosing

Smart Ingest and Data Gathering

Leveraging off its ability to connect with various databases, datastores, and OCR documents, SavantX has many unique capabilities:

- ✘ Unified data store – allows enterprises to search against data sets that were previously disjointed and/or distributed across multiple data stores
- ✘ Handles many file types, including: TXT, EML, PST, XLS/X, PPT/X, DOC/X, TIF/F, PDF, HTML, XML, RTF, WDP, database backups and many more
- ✘ Automatic OCR of image files allows text extraction and indexing of image-files (make images searchable)
- ✘ Connect directly to databases (SQL Server, SAP, Oracle, MongoDB, etc.)

- ✘ Evergreen capability for continuous ingestion and indexing of 'live' datasets (including database systems)
- ✘ Continuous ingestion and indexing of data, automatically modifying indexes for new, deleted, or updated documents
- ✘ High performance, distributed system capable of scaling with an enterprise's data and user needs
- ✘ Multi-indexing for special terms, allowing for multiple 'correct' views of the same term
- ✘ Automated refreshing or rebuilding information sources based on an administrator-specified schedule
- ✘ Multiple layers of system redundancy ensuring high availability and integrity of the system and its underlying data stores

Security

SavantX is most often deployed behind an organization's firewall. SavantX also uses other features to further its security:

- ✘ Intuitive security integration capabilities: inherit (or create) security provisions for documents and users alike
- ✘ Restricted display of security-sensitive results based on agreement of user's and document's security provisioning

A.I. and Machine Learning

With three patents filed, SavantX brings a new approach to A.I. and ML:

- ✘ Automated ML algorithms help SavantX continuously educate itself, creating multi-layered indexing on the data set, learning and refining data-set relevant vocabularies, and more
- ✘ The SavantX Platform is parallelized down to server core and distributed across many servers – built specifically to handle extensive data sets for very large enterprises
- ✘ System never idles: when not ingesting and indexing new data or helping users search/analyze data, SavantX is employing ML algorithms to get 'smarter'
- ✘ System is configurable to support enterprises with thousands of users, terabytes of data and allows for easy modification (extension of data store or user base) after installation
- ✘ SavantX interacts with client's datastores in read-only mode, preventing any possibility of users modifying underlying datastores
- ✘ Search history allows users, system administrator, and SavantX system to get 'smarter' by leveraging on the results of their peers
- ✘ Dashboard enables system administrators to oversee and direct (manual or automated/scheduled) ingestion and indexing of information sources