Luminoso process flow

Learn how Luminoso's powerful science leads users from data to insights, across any domain, industry, and use case.

Since our earliest days, Luminoso's mission has remained the same: becoming the go-to text analytics company for organizations looking to understand customer and employee text data and drive impactful, revenue-generating decisions. And over the years, we have evolved to be the market leaders for teaching computers to understand and learn language like humans do.

A brief overview of the Luminoso approach

Luminoso solutions work based on a unique method of transfer learning, combining word embeddings with proprietary QuickLearn technology, and general knowledge from the semantic network ConceptNet.

Word embeddings – QuickLearn uses word embeddings, in which individual words are each represented by a vector. Vectors in similar directions represent words with similar meanings. For example, a vector for the word shampoo would be similar to vectors for related words, such as soap, hair, and conditioner. Each word embedding may represent hundreds of dimensions to capture meaning and nuances.

Background spaces – A background space is a collection of word embeddings reflecting what words mean in general. Luminoso uses a background space derived from the knowledge graph ConceptNet.

Transfer learning – This machine learning method transfers the knowledge that a pre-trained system has learned, applying it forward to solve a new task with new data.

ConceptNet – ConceptNet's multilingual knowledge base contains information about what words mean in general and how they're connected to each other, so that the system can be pre-trained to know what words mean in general, and then learn more specific things from new data.
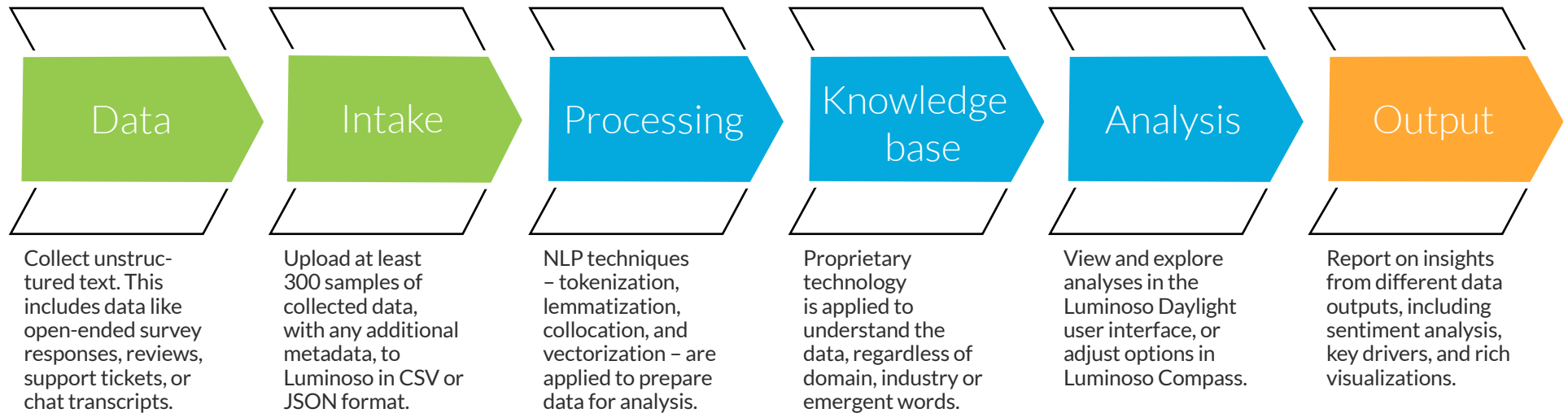
Semantic spaces – By applying transfer learning from the ConceptNet background space onto your specific data, QuickLearn creates a semantic space, or a table of embeddings representing its understanding of words. This allows for exploration of specific domains, trained on the knowledge base of common-sense understanding, as well as the ability to surface and understand new and never-before-seen terms.

What makes Luminoso different?

Our application of augmented word embeddings:

1) requires less data;

2) is faster; and

3) is more accurate than other NLP approaches like latent semantic analysis (LSA), latent dirichlet allocation (LDA), keywords, and ontologies.

Additionally, Luminoso's data processing and visualization is entirely automated. No custom ontologies or algorithms must be built or maintained in order to analyze text data. Text intake and data classification/categorization can also be entirely automated via Luminoso's API.

| Data | Intake | Processing | Knowledge base | Analysis | Output |

Data — Collect unstructured text. This includes data like open-ended survey responses, reviews, support tickets, or chat transcripts.

Intake — Upload at least 300 samples of collected data, with any additional metadata, to Luminoso in CSV or JSON format.

Processing — NLP techniques – tokenization, lemmatization, collocation, and vectorization – are applied to prepare data for analysis.

Knowledge base — Proprietary technology is applied to understand the data, regardless of domain, industry or emergent words.

Analysis — View and explore analyses in the Luminoso Daylight user interface, or adjust options in Luminoso Compass.

Output — Report on insights from different data outputs, including sentiment analysis, key drivers, and rich visualizations.

About Luminoso

Luminoso builds text analytics products for analyzing conversational text data like support tickets, open-ended survey responses, and reviews. Using common-sense artificial intelligence to understand language, we empower organizations to discover, interpret, and act on what people are telling them. Requiring little setup, maintenance, or training, Luminoso combines world-leading natural language understanding technology with a vast knowledge base to learn words from context – like humans do – and instantly analyze text without libraries. Our products provide native support in 15 languages, so leaders can explore text data, make sense of feedback, and surface business-critical insights. Luminoso is privately held and headquartered in Boston, MA.

To learn more, visit us at luminoso.com.

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www.luminoso.com   info@luminoso.com   @LuminosoInsight