



Artificial intelligence solutions for mission-critical defense

ROSETTE

Accelerate the time to actionable insights

The success of today's missions relies on the use of human language technology — whether it's matching names to watchlists, enriching data, or extracting insights from large volumes of text.

However, names are rarely straightforward and highly variable. Multilingual text adds another layer of complexity, because names may be altered so much when translated that they become unrecognizable. The same is true for words that rely on context, and whose meaning can change based on how they appear in a sentence.

Analysts must make rapid decisions based on available information, so the information must be as accurate as possible. Artificial intelligence (AI) solutions for name matching use carefully-tuned algorithms to understand equivalent phonetic spellings, nicknames, and name variations within each language. Named entity recognition enables AI to extract individuals, locations, organizations, and more, and link them to known entities in a knowledge base.

When applied to unstructured text, AI also extracts information about events and dates to reveal connections. When searching large volumes of text, AI employs semantic similarity to uncover related terms and detect topics of interest. It can also tag data with enriching metadata to make searches more meaningful. All these capabilities provide an information advantage.

What's at risk?

In high-stakes name matching situations, such as border security, a false negative could admit a potentially dangerous person into the country. For intelligence analysts, missing the connections between essential elements of information could put the lives of citizens and service personnel at risk. Not seeing the big picture, or not finding and connecting key entities can cause significant damage to national security.

Utilizing Intelligent Name Matching to Strengthen U.S. Borders

Accuracy is the top priority of many missions that use human language technology — and if there is a hole in the system, it is critical to security and commerce for the country. Missing even a single match against a watchlist puts citizens at risk. U.S. Customs and Border Protection (CBP) needed a foolproof solution to prevent known watchlist individuals from passing through screening. By integrating Rosette into its existing screening system, CBP added greater name matching accuracy — and ultimately greater security — to its border protection efforts.



U.S. Customs and Border Protection

Trusted by intelligence and security organizations worldwide

Rapid advances in artificial intelligence and natural language processing (NLP) have made it possible to dramatically reduce the time between acquiring data and acting on it. The ambiguities introduced through human and machine translation can be virtually eliminated, and mission-critical decisions can be made in near-real time, even when data is in multiple languages and scripts.

Rosette® is AI-powered software for multilingual text analytics. Currently in use across defense, intelligence, and border security organizations worldwide, Rosette addresses the complexities associated with matching names to watchlists and extracting knowledge from text. As a plug-in, Rosette integrates with search engines and applications, so there's no need to replace existing systems.

Key capabilities include:

Name matching — Rosette handles the challenges associated with variations in the names of people, organizations, and locations around the world. Our fuzzy name matching algorithms address the variety and ambiguity of name-centric data to accurately and intelligently find matches quickly.

Entity extraction — Rosette uses multiple approaches — such as pattern matching and statistical models — to maximize precision and recall for each entity type. And while Rosette offers out-of-the-box models for numerous entity types, it can also be quickly adapted to process the domain-specific data for various defense and intelligence use cases.

Event extraction — Rosette detects mission-specific events within text and extracts the key people, places, organizations, and dates/times mentioned. Whereas traditional machine learning requires large volumes of training data, our innovative approach requires very little

annotation to achieve high levels of reliability. Rosette can be integrated with other systems to display event insights in context with geospatial and other data sources.

Cross-lingual semantic search — Rosette semantic search is made possible through word embeddings, a technique that encodes the meaning of words as numbers. Words and phrases with similar values will be close in meaning, whether they are in the same or different languages. This enables analysts to expand searches beyond keywords to find matches based on meaning.

Data enrichment — Rosette enhances databases with text analytics and metadata tagging to enable intelligent, faceted search. When documents are tagged with their language(s), transliterated entity mentions, categories, sentiment and more, searches yield more complete results.

Extracting essential elements of information from noisy text can feel impossible...

With AI text analytics by Rosette, welcome to what's possible

Babel Street. Unlock the Most Insights that Matter.

Babel Street provides the most advanced data analytics and intelligence platform for the world's most trusted government and commercial brands. The AI-enabled platform helps them stay informed and improves decision-making for threat intelligence, risk mitigation, identity management, and alerting use cases. Teams are empowered to rapidly detect and collaborate on what matters in seconds by transforming massive amounts of global, multilingual data into actionable and contextual insights so they can act with confidence.

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