

MEDICAL INTELLIGENCE PLATFORM

AI-based platform for anticipating potential biological threats and mitigating the COVID-19 crisis

Expert System's AI-based Medical Intelligence Platform (MIP) provides information analysts with a complete solution to acquire, analyze, search and explore billions of data points to:

- Mitigate risks to address the response to crises like COVID-19 and other biological threats
- Support strategic and tactical decision making through case monitoring and analysis of medical discoveries, social and business impacts and citizen emotions
- Anticipate new biological threats using Digital Disease Detection

In dealing with biological risks, researchers must be able to search and explore all of the data available. This means starting from what we already know—such as symptoms related to a condition—to find related information to further target our search. It also requires discovering information and relationships that are initially unknown.

How MIP works

MIP performs deep and wide analysis of unstructured data sets, extracting and highlighting real-time events linked to the crisis in order to support decision makers—government, health and safety personnel—to quickly identify new emerging threats, mitigate risks and support decision making.

MIP leverages Artificial Intelligence based on full Natural Language Understanding to:

- Discover and aggregate all relevant information in real-time by monitoring social media, medical reports, citizen hotlines, 911 calls, police reports and more.
- Organize results by category based on medical ontologies and taxonomies for exploring large datasets using medical data scientist perspectives.
- Facilitate scanning for emerging threats and issues, detecting weak signals related to over-the-horizon threats.
- Monitor open sources and public opinion to understand sentiment and emotions around the crisis and its social effects (increased costs of goods and services, lack of access to doctors or medicine) and economic impacts (layoffs, supply chain blockages, etc.).
- Combine input from traditional media sources (Facebook, Twitter, news, blogs, etc.) with internal data such as reports from doctors and hospitals and 911 calls for early outbreak detection.

Taxonomies included in MIP

- **MeSH (Medical Subject Headings):** The National Library of Medicine's controlled vocabulary of more than 4 million definitions for the purpose of indexing life sciences journal articles
- **SNOMED CT:** The most comprehensive, multilingual clinical healthcare terminology in the world; includes clinical findings, symptoms, diagnoses, procedures, body structures, etc.
- **Mediatopics:** Based on the standard IPTC taxonomy of about 450 categories
- **Business taxonomy:** Includes about 70 categories
- **Emotions taxonomy:** Single-level taxonomy across 75 categories of the main emotions and human behaviors
- **Geo taxonomy:** Based on a taxonomy of 250 categories, where each category represents a nation

HIGHLIGHTS



Understand, categorize, aggregate

Thanks to Natural Language Understanding, read and identify what is contained in any document and understand context, concepts, entities, relationships and automatically categorize across any taxonomy. Provide access to the most up-to-date information about the situation and make it more findable to mitigate risks and discover more information, faster, with greater accuracy.

Real-time monitoring and horizon scanning

Receive proactive alerts triggered by relevant news from sources on the analyst-defined target. Facilitate scanning for emerging threats and issues, detect weak signals related to over-the-horizon biological threats and monitor public opinion.



Searching and exploring

MIP discovers significant clusters (a combination of symptoms/clinical analyses/temporal and territorial correlations), combining the data that emerges from open sources and social networks (digital disease detection), from health system channels (patient medical records, 911 calls, etc.) and from scientific and academic literature.

ABOUT US

The Artificial Intelligence company Expert System improves decision making by turning data into actionable insights. Our knowledge graph-based platform enables human-like comprehension at scale to extend automation efficiencies and simplify knowledge discovery. Business and government organizations choose our unique mix of natural language understanding and machine learning algorithms to advance innovation by reading and analyzing documents of any kind with multilanguage accuracy, scalability and ROI in weeks, not months.