

Artificial Intelligence and Visual Analytics: INSIGHT FROM BIOMEDICAL LITERATURE IS NOW IN SIGHT

The importance of the biomedical literature to the pharmaceutical industry cannot be overstated. Understanding the literature is a cornerstone for discovery, publication planning, competitive intelligence, identification of adverse events, compliance, and more.

Despite being so essential for the industry, the methods for discovering critical information from the literature largely remain entrenched in 1950s technology. Even newer approaches, such as semantics and natural language processing (NLP) have not lived up to expectations.

The result? Every company has multiple projects every year that are negatively impacted by an inability to discover what was needed from the literature. The European Patent Office has reported that 30% of R&D budgets are wasted rediscovering previously published information.

The Biomedical Literature is Big Data

There are over 40 million authoritative biomedical documents (journal articles, patents, etc.), growing at about 2 million/year. These documents contain several billion nuggets of information. Traditional search methods are not able deal with this effectively. The entire mindset regarding the literature requires a shift toward a big data mentality, and only artificial intelligence (AI) coupled with visual analytics can address this effectively. Gone are the days when a search of PubMed or related resources can alone be considered sufficient for multi-million dollar endeavors.

Artificial Intelligence

For big data, AI is required to find and understand what is important. In the case of

the biomedical literature, AI provides deeper and more relevant discovery, leading to new perspectives. In addition to general information discovery, AI can also be used to answer questions.

In particular, it is AI analysis of the informative text that is required. Attempted discovery from surrogate information, such as references, does not address the actual points made by the authors and, in many cases, is actually misleading.

It is also crucial that the AI methods be specific to the biomedical field. The ambiguity introduced by gene names, the complexity of the biomedical language, and the general way biomedical text is written all require unique

approaches that cannot be addressed by off-the-shelf methods.

Visual Analytics

As important as the underlying AI discovery is the use of AI-powered visual analytics. The advanced discovery enabled by the AI sets the stage, but human exploration and decisions are still required.

Typical literature searches result in thousands to hundreds of thousands of documents. Understanding of that information from lists is impossible. Going well beyond bibliometric analysis, visual analytics of the actual document text can provide summarization, prediction of trends, uncover hidden connections, and provide an intuitive framework for exploring the literature. Visual analytics can not only help you hone in on what you were looking for, but also help you recognize additional concepts of importance that you didn't even know about.

A key advantage of visual analytics is the ability to see the big picture and dive in quickly for detail. It is like being in a corn

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maze — hard to navigate. With the right overview, you can immediately see the overall pattern, quickly define the best path, and discover the critical information needed.

Empowering Your Company to Become Knowledge Engineers

Adequate use of the wealth of biomedical literature requires everyone in your company to become knowledge engineers, not just searchers. It is time to look beyond the traditional search tools to the new, powerful generation of AI-driven solutions.

Additionally, it is important to find a solution that can be customized to your needs, including AI algorithms, visual analytics, and content you need. ^{PV}

Quertle has been leading the transition from search to AI-powered visual analytic-based discovery. Quertle has subscription-based solutions and provides custom deployments.

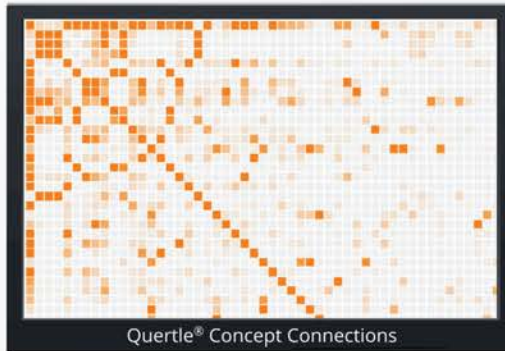
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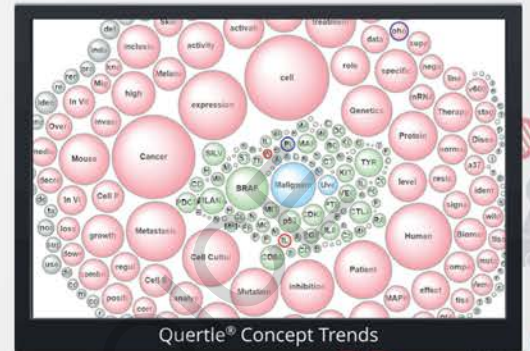
AI for Biomedical Literature



Quertle® Concept Cloud



Quertle® Concept Connections



Quertle® Concept Trends

BIG DATA PROBLEM

40 million and counting. That's how many online authoritative biomedical documents you'll need to sift through to find the specific information you need. Traditional search engines just aren't up to the task, wasting your time, money and patience.

BIG DATA SOLUTION

Only Artificial Intelligence (AI) coupled with Visual Analytics can address the problem effectively. Introducing Qinsight powered by BioAI™, the first and only results engine delivering:

- Deeper, more relevant discovery
- Analysis of informative text
- Methodology specific to the biomedical field
- Visual analytics to predict trends, uncover hidden connections and recognize additional concepts

Seeing IS believing.

Contact us: info@quertle.com
Schedule a free trial today.
Free training and support.

Qinsight™

Discover | Analyze | Decide

By **Quertle**®