Text Analytics

Enable guided selling using natural language search queries

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The Big Picture

A large health and wellness products company was looking to build a cognitive learning platform that would enable guided selling based on specific consumer needs. It was also looking to create a customized wellness experience across its brands.

The company's key challenges included extracting text from sources such as Lotus Notes Rich Text Format and PDFs (where extraction is imperfect) and harmonizing the data from different sources at the correct levels. It needed a solution that could understand the intent of long and indirect queries and terms expressed in multiple forms (for e.g., head ache and headache, etc.). It also needed to develop a framework that could be used by several systems that could easily be enhanced with additional data source.

Transformative Solution

It was determined that dCrypt would solve the product recommendation problem using an Information Retrieval (IR) based approach. The framework was created using several components of Natural Language Processing, IR, and software engineering for a fully-operational search-engine system. This consisted of: ingesting and extracting data from various sources harmonized at the right levels for a single view; cleaning, preprocessing, and feature extractions for the models; and building ranking models for providing product recommendations to user queries.

Several types of data, including product descriptions, health/wellness related, and other sources, were used for building a richer recommendation engine. The solution was exposed through an API, enabling a business-agnostic solution to be created that could be plugged in and consumed by various other systems.

The Change

The new search engine provided relevant product recommendations for natural language search queries with higher accuracy and recall than the company's existing e-commerce search. The system was capable of understanding long sentence and indirect queries. It was integrated with the company's mobile app, and it could be improved upon by plugging in new data sources easily. Logging was incorporated to allow for future improvements such as recommendations and personalization.

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