Some of the important functions of an information retrieval (IR) system include searching, accessing, and retrieving information from large amounts of unstructured (or semi-structured) data (for example, documents, web pages, images, multimedia). Rather than requiring users to check through large volumes of data manually, IR systems have been developed that make use of algorithms to match users' queries with the most relevant content. The most common example of an IR system are search engine products, such as Google, that index billions of web pages, analyze keywords, comprehend the context, and rank the results so that users can find the information they need in the quickest possible time. The objective of IR is to derive maximum relevance while at the same time minimizing the time and effort it takes to find the needed information.

Modern information retrieval has improved far beyond simple keyword matching; with new technologies and improvements like machine learning, natural language processing, semantics, etc., IR systems are able to understand meaning, identify relationships between concepts, and customize results based upon user behavior. Vector embedding techniques, ranking algorithms, and relevance feedback also offer a means for IR systems to generate and deliver more accurate and context aware outputs. As the amount of available data continues to grow exponentially, the IR system provides the foundational support for much of the research undertaken, as well as for a wide variety of other products such as Search Engines, Recommendation Systems, Academic Tools, and Enterprise Knowledge Management. Ultimately, the IR system converts raw data into the knowledge that users need.