Information retrieval (IR) is the process of finding relevant information from a large collection of data. It's a computer science field that involves searching for, locating, and presenting information that matches a user's query.

IR systems are used in many fields, including business, education, and healthcare. They're also the foundation of search engines, virtual assistants, and email sorting.

IR systems use a variety of models, algorithms, and techniques to help users find information. Some of these techniques include:

- **Set theory**: A simple data modeling approach that views documents and queries as buckets of words.

- **Fuzzy set theory**: A refinement of set theory that uses weighted ranking to determine how well a document matches a query.

- **Vector-space model**: A popular IR model that describes documents as vectors of term-weights.

As the amount of data available continues to grow, the need for effective IR systems becomes increasingly important. IR systems must develop sophisticated algorithms to filter out noise and present users with the most valuable information.