After the 1985 lecture at the Chinese Academy of Sciences in Beijing, in 1997 C. In addition to statistical analysis, data science often involves tasks such as data preprocessing, feature engineering, and model selection. In 2012, technologists Thomas H. However, the definition was still in flux. It uses techniques and theories drawn from many fields within the context of mathematics, statistics, computer science, information science, and domain knowledge. Despite these differences, data science and data analysis are closely related fields and often require similar skill sets. "Data science" became more widely used in the next few years: in 2002, the Committee on Data for Science and Technology launched the Data Science Journal. Data analysis typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. In a 2001 paper, he advocated an expansion of statistics beyond theory into technical areas; because this would significantly change the field, it warranted a new name. There is still no consensus on the definition of data science, and it is considered by some to be a buzzword. Data science is an interdisciplinary field focused on extracting knowledge from typically large data sets and applying the knowledge and insights from that data to solve problems in a wide range of application domains. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. Stanford professor David Donoho writes that data science is not distinguished from statistics by the size of datasets or use of computing and that many graduate programs misleadingly advertise their analytics and statistics training as the essence of a data-science program. Despite these differences, data science and data analysis are closely related fields and often require similar skill sets. In 2012, technologists Thomas H. In 1998, Hayashi Chikio argued for data science as a new, interdisciplinary concept, with three aspects: data design, collection, and analysis. Jeff Wu again suggested that statistics should be renamed data science. Cleveland. In contrast, data science deals with quantitative and qualitative data (e.g., from images, text, sensors, transactions, customer information, etc.) and emphasizes prediction and action. For example, a data analyst might analyze sales data to identify trends in customer behavior and make recommendations for marketing strategies. Data analysis typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. Davenport and DJ Patil declared "Data Scientist: The Sexiest Job of the 21st Century", a catchphrase that was picked up even by major-city newspapers like the New York Times and the Boston Globe. Turing Award winner Jim Gray imagined data science as a "fourth paradigm" of science (empirical, theoretical, computational, and now data-driven) and asserted that "everything about science is changing because of the impact of information technology" and the data deluge. Data science is an interdisciplinary field focused on extracting knowledge from typically large data sets and applying the knowledge and insights from that data to solve problems in a wide range of application domains. In summary, data analysis and data science are distinct yet interconnected disciplines within the broader field of data management and analysis.