

Data analysis typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. During the 1990s, popular terms for the process of finding patterns in datasets (which were increasingly large) included "knowledge discovery" and "data mining". Big data is a related marketing term. In 1998, Hayashi Chikio argued for data science as a new, interdisciplinary concept, with three aspects: data design, collection, and analysis. Data science also integrates domain knowledge from the underlying application domain (e.g., natural sciences, information technology, and medicine). During the 1990s, popular terms for the process of finding patterns in datasets (which were increasingly large) included "knowledge discovery" and "data mining". F. However, the definition was still in flux. Moreover, both fields benefit from critical thinking and domain knowledge, as understanding the context and nuances of the data is essential for accurate analysis and modeling. Big data is a related marketing term. In addition to statistical analysis, data science often involves tasks such as data preprocessing, feature engineering, and model selection. Data science, on the other hand, is a more complex and iterative process that involves working with larger, more complex datasets that often require advanced computational and statistical methods to analyze. Others argue that data science is distinct from statistics because it focuses on problems and techniques unique to digital data. Data scientists are responsible for breaking down big data into usable information and creating software and algorithms that help companies and organizations determine optimal operations. In 2014, the American Statistical Association's Section on Statistical Learning and Data Mining changed its name to the Section on Statistical Learning and Data Science, reflecting the ascendant popularity of data science. Statistician Nathan Yau, drawing on Ben Fry, also links data science to human–computer interaction: users should be able to intuitively control and explore data. For example, a data analyst might analyze sales data to identify trends in customer behavior and make recommendations for marketing strategies. In 2014, the American Statistical Association's Section on Statistical Learning and Data Mining changed its name to the Section on Statistical Learning and Data Science, reflecting the ascendant popularity of data science. Both fields play vital roles in leveraging the power of data to understand patterns, make informed decisions, and solve complex problems across various domains. Jeff Wu again suggested that statistics should be renamed data science. Cleveland. In 1996, the International Federation of Classification Societies became the first conference to specifically feature data science as a topic. He reasoned that a new name would help statistics shed inaccurate stereotypes, such as being synonymous with accounting or limited to describing data. 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.