

A decade later, they reaffirmed it, stating that "the job is more in demand than ever with employers". 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. In 2003, Columbia University launched The Journal of Data Science. During the 1990s, popular terms for the process of finding patterns in datasets (which were increasingly large) included "knowledge discovery" and "data mining". Data science and data analysis are both important disciplines in the field of data management and analysis, but they differ in several key ways. It uses techniques and theories drawn from many fields within the context of mathematics, statistics, computer science, information science, and domain knowledge. After the 1985 lecture at the Chinese Academy of Sciences in Beijing, in 1997 C. Many statisticians, including Nate Silver, have argued that data science is not a new field, but rather another name for statistics. For example, a data analyst might analyze sales data to identify trends in customer behavior and make recommendations for marketing strategies. Data scientists are often responsible for collecting and cleaning data, selecting appropriate analytical techniques, and deploying models in real-world scenarios. In 2003, Columbia University launched The Journal of Data Science. Big data is a related marketing term. Though it was used by the National Science Board in their 2005 report "Long-Lived Digital Data Collections: Enabling Research and Education in the 21st Century", it referred broadly to any key role in managing a digital data collection. 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. A decade later, they reaffirmed it, stating that "the job is more in demand than ever with employers". Both fields require a solid foundation in statistics, programming, and data visualization, as well as the ability to communicate findings effectively to both technical and non-technical audiences. Data science is multifaceted and can be described as a science, a research paradigm, a research method, a discipline, a workflow, and a profession. In addition to statistical analysis, data science often involves tasks such as data preprocessing, feature engineering, and model selection. Though it was used by the National Science Board in their 2005 report "Long-Lived Digital Data Collections: Enabling Research and Education in the 21st Century", it referred broadly to any key role in managing a digital data collection. The term "data science" has been traced back to 1974, when Peter Naur proposed it as an alternative name to computer science. 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. Jeff Wu used the term "data science" for the first time as an alternative name for statistics. 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.