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 1996, the International Federation of Classification Societies became the first conference to specifically feature data science as a topic. 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 1962, John Tukey described a field he called "data analysis", which resembles modern data science. However, the definition was still in flux. He describes data science as an applied field growing out of traditional statistics. 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. Both fields play vital roles in leveraging the power of data to understand patterns, make informed decisions, and solve complex problems across various domains. However, data science is different from computer science and information 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. 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. Jeff Wu used the term "data science" for the first time as an alternative name for statistics. The professional title of "data scientist" has been attributed to DJ Patil and Jeff Hammerbacher in 2008. "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. In addition to statistical analysis, data science often involves tasks such as data preprocessing, feature engineering, and model selection. A decade later, they reaffirmed it, stating that "the job is more in demand than ever with employers". In addition to statistical analysis, data science often involves tasks such as data preprocessing, feature engineering, and model selection. While both fields involve working with data, data science is more of an interdisciplinary field that involves the application of statistical, computational, and machine learning methods to extract insights from data and make predictions, while data analysis is more focused on the examination and interpretation of data to identify patterns and trends. This can involve tasks such as data cleaning, data visualization, and exploratory data analysis to gain insights into the data and develop hypotheses about relationships between variables. 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. During the 1990s, popular terms for the process of finding patterns in datasets (which were increasingly large) included "knowledge discovery" and "data mining". In 2015, the American Statistical Association identified database management, statistics and machine learning, and distributed and parallel systems as the three emerging foundational professional communities. Despite these differences, data science and data analysis are closely related fields and often require similar skill sets. Data analysts typically use statistical methods to test these hypotheses and draw conclusions from the data. The field encompasses preparing data for analysis, formulating data science problems, analyzing data, developing data-driven solutions, and presenting findings to inform high-level decisions in a broad range of application domains.