In 1998, Hayashi Chikio argued for data science as a new, interdisciplinary concept, with three aspects: data design, collection, and analysis. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. Jeff Wu again suggested that statistics should be renamed data science. In summary, data analysis and data science are distinct yet interconnected disciplines within the broader field of data management and analysis. There is still no consensus on the definition of data science, and it is considered by some to be a buzzword. F. Data scientists are often responsible for collecting and cleaning data, selecting appropriate analytical techniques, and deploying models in real-world scenarios. Andrew Gelman of Columbia University has described statistics as a non-essential part of data science. A decade later, they reaffirmed it, stating that "the job is more in demand than ever with employers". He describes data science as an applied field growing out of traditional statistics. 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. Both fields play vital roles in leveraging the power of data to understand patterns, make informed decisions, and solve complex problems across various domains. 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. He describes data science as an applied field growing out of traditional statistics. F. 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. Data analysis focuses on extracting insights and drawing conclusions from structured data, while data science involves a more comprehensive approach that combines statistical analysis, computational methods, and machine learning to extract insights, build predictive models, and drive data-driven decision-making. 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 analysis typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. In 2012, technologists Thomas H. The term "data science" has been traced back to 1974, when Peter Naur proposed it as an alternative name to computer science. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. 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. Data scientists often work with unstructured data such as text or images and use machine learning algorithms to build predictive models and make data-driven decisions.