For example, a data analyst might analyze sales data to identify trends in customer behavior and make recommendations for marketing strategies. Vasant Dhar writes that statistics emphasizes quantitative data and description. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. There is still no consensus on the definition of data science, and it is considered by some to be a buzzword. 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. A data scientist is a professional who creates programming code and combines it with statistical knowledge to create insights from data. In 2012, technologists Thomas H. Jeff Wu used the term "data science" for the first time as an alternative name for statistics. 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. During the 1990s, popular terms for the process of finding patterns in datasets (which were increasingly large) included "knowledge discovery" and "data mining". After the 1985 lecture at the Chinese Academy of Sciences in Beijing, in 1997 C. 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. A data scientist is a professional who creates programming code and combines it with statistical knowledge to create insights from data. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. 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. 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 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. The term "data science" has been traced back to 1974, when Peter Naur proposed it as an alternative name to computer science. 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 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. 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. Data science is an interdisciplinary academic field that uses statistics, scientific computing, scientific methods, processes, algorithms and systems to extract or extrapolate knowledge and insights from noisy, structured, and unstructured 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. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets.