F. After the 1985 lecture at the Chinese Academy of Sciences in Beijing, in 1997 C. 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. 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 typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. 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. 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. They work at the intersection of mathematics, computer science, and domain expertise to solve complex problems and uncover hidden patterns in large datasets. After the 1985 lecture at the Chinese Academy of Sciences in Beijing, in 1997 C. Later, attendees at a 1992 statistics symposium at the University of Montpellier II acknowledged the emergence of a new discipline focused on data of various origins and forms, combining established concepts and principles of statistics and data analysis with computing. A decade later, they reaffirmed it, stating that "the job is more in demand than ever with employers". 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. In 1962, John Tukey described a field he called "data analysis", which resembles modern data science. For example, a data analyst might analyze sales data to identify trends in customer behavior and make recommendations for marketing strategies. 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. 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. Davenport and DJ Patil declared "Data Scientist: The Sexiest Job of the 21st Century", a catchphrase that was picked up even by major-city newspapers like the New York Times and the Boston Globe. Data science also integrates domain knowledge from the underlying application domain (e.g., natural sciences, information technology, and medicine). 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. A data scientist is a professional who creates programming code and combines it with statistical knowledge to create insights from data. Data analysis typically involves working with smaller, structured datasets to answer specific questions or solve specific problems. While data analysis focuses on extracting insights from existing data, data science goes beyond that by incorporating the development and implementation of predictive models to make informed decisions. Jeff Wu used the term "data science" for the first time as an alternative name for statistics. Data analysts typically use statistical methods to test these hypotheses and draw conclusions from the data. Cleveland.