

Industry 101 DATA SCIENCE

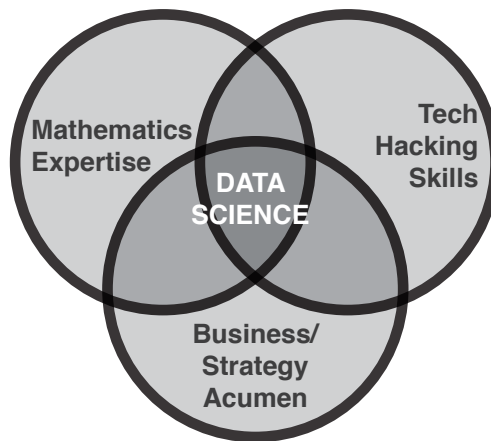
Data science combines aspects of social science and statistics, information and computer science and design. The field uses processes and systems to make meaning of data in various forms. Field professionals possess technical and analytical skills required to collect, clean, and model data, as well as communication skills to tell powerful, impactful stories with data to influence organizational decisions.



TRENDS & INDUSTRY INFO

The need for data collection and analysis by all types of organizations is driving the increase in demand for data science skills. The field is expecting growth faster than that of other occupations, yet the supply for persons with these skills has not kept pace with the demand. Many colleges and universities, as well as, online MOOCs are offering programs and certifications to equip persons with these skills. The need for data scientists is present in a number of industries including:

- Healthcare
- Government
- Marketing
- Consulting
- Financial Institutions
- StartUps

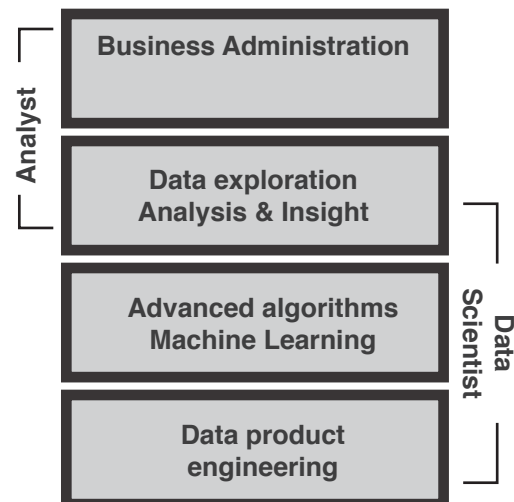


WORK ENVIRONMENT

Most within the data science field work a traditional full time schedule. Organizational culture ranges from casual environment to formal. Knowledge of your preference will be important as seeking opportunities.

FACTS & STATS

A 2011 report by the McKinsey Global Institute noted that by 2018, the U.S. could face a shortage of 140,000 to 190,000 people with deep analytic skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions. The average salary of a data scientist in 2015 was \$118,709 according to the Bureau of Labor and Statistics.



Note: All Occupations includes all occupations in the U.S. Economy.
Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics

Venn Diagram courtesy of DataJobs.com

A Career In DATA SCIENCE

SKILLS & EXPERIENCE NEEDED

Resume

Highlight all of the technical skills possessed and any work or volunteer experience. Employers are also interested in learning about any data related projects, completed in-class or on your own.

Technical Skills Required

- Knowledge of Python, along with Java, Perl, or C/C++
- Knowledge of Hadoop Platform.
- Familiarity with cloud tools (Amazon S3, etc.)
- Experience with Hive or Pig.
- Knowledge of SQL Database/Coding
- Ability to work with unstructured data (social media, video feeds or audio)

Soft Skills Required

- Intellectual curiosity
- Communication both verbal and written
- Business acumen

Experience

Internships are expected to develop skills and gain exposure. Volunteering or participation in hackathons are also great ways to gain insight and demonstrate interest.

Hiring Process and Timelines

Recruiting timelines at the large private sector firms may be earlier and more structured than those of other organizations. It is important to network within the industry. Interviews often comprise both behavioral and technical components. Prepare to manipulate a data set or provide an analysis of information provided.

RESOURCES

- [Data Science Weekly](#)
- [Data Science Association](#)
- International Machine Learning Society (IMLS)
- Institute for Operations Research and the Management Sciences (INFORMS)
- [Dataconomy](#)

SAMPLE JOB TITLES

- Business Analyst
- Business Intelligence
- Business Development
- Data Analyst
- Data Scientist
- Data Miner
- Data Visualization
- Data Architect
- Analytics Manager
- Statistician
- Database Administrator

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