

Career Center

Resources for Exploring Careers

in Data Science

Data science is a growing field across sectors, and data science jobs are often ranked very highly. Graduate students' technical skills and research experience translate well to data science and analytics roles. While some of the information about data science careers is often geared toward the latest technology, jobs and internships in this field vary greatly by sector. For instance, the data skills needed are very different for data scientist jobs in tech, finance, bioinformatics, and education. Experience with a particular type of analysis or programming language may help you get your first job, employers are looking for the abilities to learn new technologies quickly, communicate clearly, and collaborate with others from different backgrounds. See this video for a more detailed introduction to data science, <https://www.youtube.com/watch?v=EaptTxhh6sM>.

Explore the Variety of Career Paths with These Example Fields & Roles

Look up these titles or fields on <http://www.indeed.com> or LinkedIn to learn more about what projects they work on and what skills are needed. This information is also useful when writing your application documents and preparing for interviews.

Data Science/Analytics

Responsibilities

- Translate a problem into a data question
- Develop the statistical and mathematical models that are applied to real-life data
- Create visualizations to tell a story with findings

Skills

- Knowledge of algorithms, statistics, mathematics
- Data manipulation and programming
- Structure a data problem
- Communicate the results to different audiences

Sample positions

- Statistician
- Data manager
- Business analyst
- Health science analyst
- Policy analyst
- Bioinformaticist

Data Engineering

Responsibilities

- Implements predictive model from the data scientist with code
- Cleaning up data sets and implementing requests

Skills

- Data storage and warehousing (SQL and NoSQL)
- Program in a broad variety of languages such as Python or Java
- Utilize frameworks such as Hadoop or Spark

Sample positions

- Data architect
- Database administrator



Compare Different Data Science Organizations

* = in the Raleigh-Durham area; # = history of sponsoring visas from myvisajobs.com

Search LinkedIn or Google Finance for these employers, and look for the section on related companies to help you identify others. Nearly all industries need data scientists or analysts, so try searching for jobs combining data analysis skills with topics that interest you.

Search Engine

- Google#
- Yahoo#
- Rank First Local*
- LocalEdge*

Social Networks

- Facebook#
- LinkedIn#
- TheeDesign*
- TriMark Digital*

Engineering

- IBM#
- SAP#
- Digital Turbine*
- Resolvit*

Finance

- Domeyard LP#
- Capital One#
- National Finance Company*
- Caktus Consulting Group*

Data Science Vendors

- SAS*#
- Pivotal#
- Tableau#
- Sentinel Data Center*

Healthcare

- CVS#
- McKesson#
- QuintilesIMS*#
- Duke University Health System*

Retail

- Wal-Mart#
- Costco#
- Kroger#
- Home Depot#

Communications

- AT&T
- T-Mobile
- Sprint
- Cricket Wireless

Marketing Agencies

- Epsilon#
- Acxiom#
- Markabull*
- The Republic*

Biotech

- Johnson & Johnson#
- Pfizer#
- Cato Research*
- Curl Bio*

Travel & Tourism

- Caesars Entertainment#
- Tourico Holidays#

Government

- Environmental Protection Agency*
- Congressional Budget Office
- Library of Congress

Read Additional Data Science and Career Resources

An overview of what makes data science an attractive career

<http://blog.udacity.com/2016/01/hottest-jobs-in-2016-3-data-scientist.html>

Watch a panel discussion at Duke on data science careers

<https://www.youtube.com/watch?v=ckdH07-AxqU&t=1s>

Skills and employment trends

<http://blog.udacity.com/2014/11/data-science-job-skills.html>

Specific training/certificates for some data science roles

<http://www.itcareerfinder.com/it-careers/big-data-scientist.html>

Resources for improving data skills

<https://blog.modeanalytics.com/data-science-career>

Stay up-to-date on the latest data science news and trends

<https://dataskeptic.com>

Advice from current data analysts and Duke alumni

<http://tinyurl.com/ll9tzgd>

See data science professionals' career stories, sample resumes/CVs, and panel discussion on Versatile PhD

<https://gradschool.duke.edu/professional-development/access-versatile-phd>

Learn about the skills required and employment trends for these positions at

<https://www.onetonline.org>

Follow these Twitter accounts

@DataScienceCtrl, @NYCDataSci, @BigDataCareer, @ @InsightDataEng, @ @DataStaxCareers

Meet Data Science Professionals to Talk About Opportunities and Their Careers

Data Science Meetups, <https://www.meetup.com/topics/data-science/us/nc/durham>

American Statistical Association, <http://www.amstat.org>

Data Science Association, <http://www.datascienceassn.org>

Royal Statistical Society, <https://www.rss.org.uk>

The Global Data Management Community, <https://www.dama.org>

Contact Duke alumni and other professionals

- <https://alumni.duke.edu>
- LinkedIn Groups: Big Data; Big Data Jobs; Data Science for Women; Data Science Professional Network; DataScience Career; Aspiring Data Scientists, Analytics & Big Data Enthusiasts

Build These Specific Skill Sets and Highlight Them When Applying

We summarized the recommendations of the Kdnuggets and Alec Smith. Read about these skill sets in more detail, <http://www.kdnuggets.com/2014/11/9-must-have-skills-data-scientist.html> and <https://www.experfy.com/blog/how-to-become-a-data-scientist-part-1-3>. Particular jobs may not require all of these skill sets, so find out from online resources and professionals you meet which of these skills sets are most relevant.

Problem solving

- Use data to investigate and address complex problems
- Intellectual curiosity
- Tenacity
- Use the 80/20 rule

Learn quickly

- Stay up-to-date on latest advances
- Gain skills and knowledge required by projects

Statistics

- Continual learning of new tools, techniques, and applications
- Statistical software such as SAS or R

Coding

- Common languages included Python, Java, Perl, and C/C++
- Ability to write and execute complex queries for SQL databases

Gain Experience

You can gain experience in many ways that involve different amounts of time investment.

Kaggle platform to gain experience, learn the tools, and participate in competitions

<https://www.kaggle.com>

Open-source projects contributor on sites such as GitHub

<https://github.com>

Freelance experience on sites such as Experfy

<https://www.experfy.com/projects/category>

Data science courses on Galvanize

<http://www.galvanize.com>

Data science courses on Coursera

<https://www.coursera.org>

Immersive boot camps such as Metis

<http://www.thisismetis.com>

Data& statistics consultant opportunity at SSCI

<https://ssri.duke.edu>

Internship at Information Initiative at Duke

<http://bigdata.duke.edu/internships>

Consultant position at Duke Data and Visualization Services

<http://library.duke.edu/data>

Find research assistant opportunities using data science on Duke List or by emailing professors

<http://dukelist.duke.edu>

Data handling

- Clean and prepare unstructured data from different sources
- Handle large data sets and distributed storage such as Hadoop, Hive, or Pig

Subject matter knowledge

- Background knowledge of a particular industry
- Discern which problems are the most important to solve

Visualizing data

- Create intuitive charts, tables, dashboards, or infographics using R, Tableau or other tools

Communication skills

- Translate technical findings to non-technical stakeholders in written documents and presentations
- Collaborate with clients and colleagues

Gain Experience (cont.)

Internship at data and software companies such as SAS

http://www.sas.com/en_us/careers.html

Engage undergraduates with data science projects through the Information Initiative at Duke

<http://bigdata.duke.edu/data-expeditions> and <http://bigdata.duke.edu/data>

Analyze data sets organizations have made available on their websites (US Census, FDA)

Neural networks guide

<https://indatalabs.com/blog/data-science/short-guide-to-neural-networks>

Internships & Fellowships

Consider the common skills required by jobs and internships.

Data Science for Social Good at the University of Chicago

<https://dssg.uchicago.edu>

Data Incubator

<https://www.thedataincubator.com/fellowship.html>

Data Science Fellowships at New York University

<http://cds.nyu.edu/opportunities>

Data Science Job Search Tools

Consider the common skills required by jobs and internships.

Kaggle

<https://www.kaggle.com/jobs>

CareerConnections, jobs and events hosted by the Duke Career Center

<http://careerconnections.duke.edu>