



STUDENT ACTIVATION

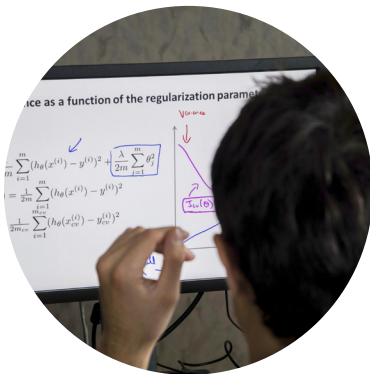


Data Scientist

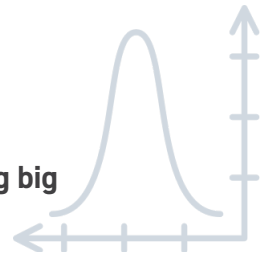


OVERVIEW

Data scientists analyze large datasets and use the patterns, trends, and information they find to test hypotheses and solve problems. They use statistics and probability, and they rely on hard evidence to answer complex questions. Data science roles can be found in just about every industry because so many companies are now collecting large amounts of data. At Microsoft, data scientists review data on customer behavior to better understand how customers want to interact with Microsoft. They use what they've learned to make customer experiences even better.



EVALUATE YOUR INTEREST



- I have a curious mind and am constantly identifying big problems that need to be solved.
- I love probability and statistics—everything from today's chance of rain to my favorite baseball player's earned run average (ERA).
- I feel most comfortable when I can rely on data to answer a question.
- I can be creative and think “outside the box.”
- I am interested in STEM subjects like computer science, physics, calculus, and statistics.
- I am a strong communicator and enjoy working with others.





Data Scientist

STUDENT ACTIVATION (CONTINUED)



CAREER CONNECTION

How does this career affect me?	What are some other similar careers?	How does this career affect the world? 
<p>If you've ever purchased anything online, you have likely seen the outcome of sophisticated data science. When you are viewing one pair of shoes, and the website shows you similar styles that "you might like," the company is using data about the behavior of hundreds or thousands of other customers to predict what you might like. This is the work of data scientists who have identified patterns and drivers and created predictive models. As you decide whether or not you are interested in the styles that the website suggests, you are helping to test the data scientists' hypotheses.</p>	<p>Business intelligence (BI) developers design tools that businesses can use to utilize data science principles and make informed decisions. These might include data visualization tools and analytic applications that allow businesses to understand their systems and the data they're collecting.</p> <p>Data analysts are the professionals responsible for gathering data, creating databases that house huge datasets, and designing advanced analyses to explain the patterns and information that emerge. This can include tracking web analytics and analyzing the results of performance tests.</p> <p>Data engineers perform the analyses that make data readable for data scientists. They apply experience, critical thinking, and contextual information to process available data and make decisions that can help companies be successful.</p>	<p>Data scientists are changing the way that healthcare professionals are able to deliver treatment to their patients, in some cases making the difference between life and death. One notable example is that innovations in data science now allow oncologists to create personalized recommendations for the treatment of cancer patients based on what has been successful for patients in the past. One such breakthrough came after data scientists mined 15 years of data on diagnoses, treatment plans, outcomes, and side effects from more than 50,000 cancer patients.¹</p> 

TAKE ACTION

- Think of a topic that interests you, like the 2020 presidential election, and make a hypothesis about which social media platform (e.g. Facebook or Twitter) has more content or hosts more conversations about that topic. For one week, monitor two social media platforms and keep a record of how many posts could be classified as being about that topic on each one. After a week, analyze the data and see if your hypothesis was right. Share your findings with your friends.
- For two weeks, monitor and record the temperature outside your house at consistent times in the morning, afternoon, and evening. Plot the data on a graph and see if you can identify patterns and trends. During the third week, measure the morning and afternoon temperatures and see if you can predict the evening temperature based on the patterns you observed during the first two weeks. Record the real temperature, as well, to determine your accuracy. Share your results with your class.
- Read through the entire local newspaper and record all the examples you can find of data being used or cited (e.g. sports teams' records and weather forecasts). Brainstorm how data science and predictive modeling could be used to analyze these data and predict trends. Share your findings with your family.

¹ "17 Data Science Applications & Examples." Built In. <https://builtin.com/data-science/data-science-applications-examples>.