

Data Science

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WHAT DOES A DATA SCIENTIST DO?

There is hardly any area where you don't come into contact with data science. When you reach for your smartphone in the morning a large number of algorithms you never get to see run in the background. That is what happens when, for example, you enter a concept in a search engine, when you use a navigation app to find the fastest route to your destination or when you use a language assistant. Forecasts—weather forecasts, for instance—also use data science algorithms. As a data scientist you will always work in an area that is rich in data, such as logistics, medicine, energy technology or the automobile industry. At the TU Hamburg you will learn how to evaluate data responsibly, process it algorithmically and extract attributes from it.

HOW CAN I SHAPE THE FUTURE WITH DATA SCIENCE?

Since the advent of the Internet, digitization has changed everyday life enormously. Its milestones have included the invention of digital photography and the development of the modern smartphone. In your field you will shape the future of communication. As a data scientist you can help to save lives, for example. You learn how to recognize disease patterns such as tumor tissue in medical image data. You help to improve character and speech recognition systems. Are you interested in robotics? There too, data science controls the autonomous systems. It is also largely responsible for the further development of artificial intelligence in assistance systems

or process automation. By studying for a B.Sc. in data science at the TU Hamburg you can help develop these new applications.

WHAT DO I LEARN ON THE COURSE AND WHERE DO I LATER FIND A JOB?

The aim of data science is to extract attributes and knowledge from large amounts of data. You learn how to create data-driven models that are not based on physical equations but are directly derived from the data. The presentation, processing, provision and storage of large amounts of data are issues that will accompany you in your studies to prepare you for Big Data. As ethical and legal aspects of handling data play a very important role in society, they are dealt with in depth on the course. After studying at the TU Hamburg you can work as a data scientist, a data analyst, a statistician, a software developer or a computer scientist in industry or research. Demand in all industries is so strong that your career prospects are outstanding.

HOW IS THE PROGRAM STRUCTURED?

In the Data Science course at the TU Hamburg you will first learn the mathematical and statistical foundations. With the aid of computer science you will implement algorithmically the models that you develop. The study program enables you to specialize at an early stage in one of the following areas: logistics, medicine, mechanics, electrical engineering or materials sciences (domain).

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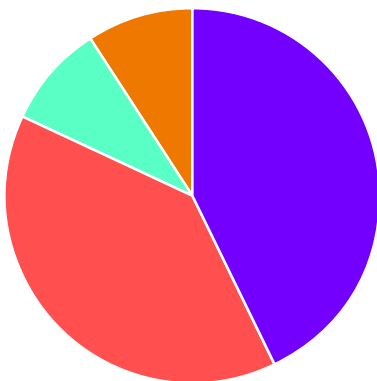
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FURTHER STUDIES?

A master's program in Data Science is currently under development at the TU Hamburg and is recommended once you have completed the B.Sc. course. The following master's programs may also of interest:

- Computer Science
- Computer Science and Engineering
- Technomathematics (TU Hamburg and Uni Hamburg)

- International industrial engineering
- Master Information and Communication Systems



- Computer science
- Mathematics
- Domain
- Others