



JACOBS  
UNIVERSITY

**EXPLORE  
THE WORLD OF  
BIG DATA**

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# **DATA ENGINEERING (MSc)**

**GRADUATE PROGRAM**

# BIG DATA AND DATA ENGINEERING

Big data has turned out to have giant potential, but poses major challenges at the same time. On the one hand, big data is driving the next stage of technological innovation and scientific discovery. Accordingly, big data has been called the “gold” of the digital revolution and the information age. On the other hand, the global volume of data is growing at a pace which seems to be hard to control. In this light, it has been noted that we are “drowning in a sea of data”.

Faced with these prospects and risks, the world requires a new generation of data specialists. Data engineering is an emerging profession concerned with big data approaches to data acquisition, data management and data analysis. Providing you with up-to-date knowledge and cutting-edge computational tools, data engineering has everything that it takes to master the era of big data.

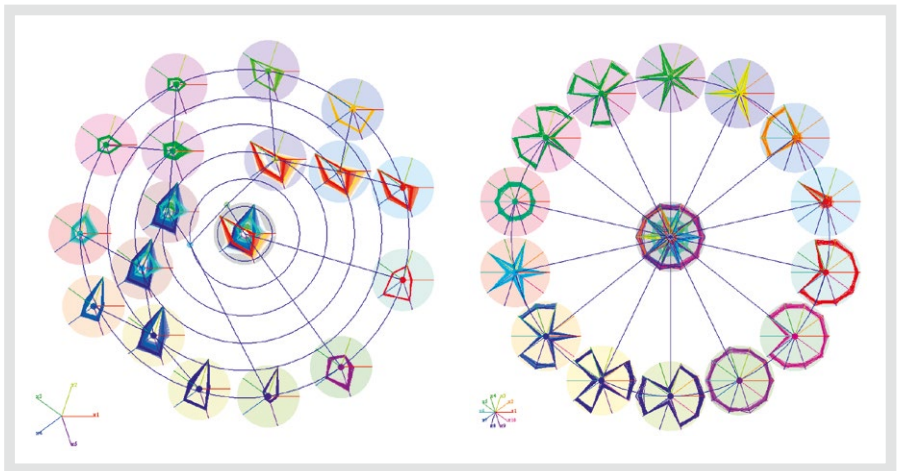
## PROGRAM FEATURES

The two-year MSc program in Data Engineering offers a fascinating and profound insight into the foundations, methods and technologies of big data. Students take a tailor-made curriculum in line with their individual interests and needs. Embedded into the vibrant academic context of Jacobs University, the program is taught by renowned experts. In a unique setting, students also team up with industry professionals in focused training courses and projects. Core components of the program and areas of specialization include:

- The big data challenge
- Data acquisition technologies
- Big data management
- Machine learning
- Semantic web and internet of things
- Statistical modeling and predictive analytics
- Visual data analytics
- Internet security and privacy
- Legal aspects of data engineering and data ethics
- Document and image analysis

For details on the curriculum, please visit:

■ [www.jacobs-university.de/data-engineering](http://www.jacobs-university.de/data-engineering)



Visualizations of cluster hierarchies in a multi-dimensional space using radial layout for the hierarchy and star glyphs for the clusters.

## CAREER OPTIONS

Demand for data engineers is massive – in industry, commerce and the public sector. From IT to finance, from automotive to oil and gas, from health to retail: companies and institutions in almost every domain need experts for data acquisition, data management and data analysis. With an MSc degree in Data Engineering, you will excel in this most exciting and rewarding field with very attractive salaries. Likewise, an MSc degree in Data Engineering allows you to move on to a PhD and to a career in academia and research institutions.





## HOW TO APPLY

Candidates who wish to enter the MSc program in Data Engineering must have a BSc degree or an equivalent degree (minimum three years of study). Applications need to include the following documents:

- Letter of motivation
- University transcript
- Degree certificate
- Two letters of recommendation
- English language proficiency test certificate (not required if English was the language of instruction at the undergraduate level)

For more details on the online application process, please visit:

— [www.jacobs-university.de/graduate-admission](http://www.jacobs-university.de/graduate-admission)

## TUITION FEE

The tuition fee for the MSc program in Data Engineering is € 20,000 per year. On a merit basis, candidates may apply for scholarships of up to € 12,000 per year.



## ABOUT JACOBS UNIVERSITY

Jacobs University is a state-accredited, research-oriented, private university in Bremen, Germany, and is one of the most international academic institutions in the country, characterized by a truly intercultural community. Founded in 2001, Jacobs University attracts highly talented and open-minded students from all over the world; more than 1,300 students from over 100 nations currently live and study on our residential campus.

With a broad portfolio of undergraduate and

graduate programs, from the natural and social sciences to engineering and economics, all of Jacobs University's programs are taught in English.

Research and education at Jacobs University are structured in three distinct focus areas:

— **MOBILITY – OF PEOPLE, GOODS AND INFORMATION**

— **HEALTH – FOCUS ON BIOACTIVE SUBSTANCES**

— **DIVERSITY – IN MODERN SOCIETIES**

Class sizes are small, enabling professors to act as personal mentors and academic advisors to students. Our faculty members address issues from multiple perspectives through their transdisciplinary research and teaching approaches, and students are actively involved in research from their first year of study. Over the last decade, Jacobs University has consistently achieved top marks according to Germany's most comprehensive and detailed university ranking by the Center for Higher Education.



## CONTACT

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For the latest information on this program,  
please visit:

— [www.jacobs-university.de/data-engineering](http://www.jacobs-university.de/data-engineering)



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