JADS
Jheronimus Academy of Data Science

The Master’s programs at a glance

JADS is powered by
# MSc Data Science programs at JADS

Become part of the data science revolution that is already shaping the world around you. Learn how to create added value through data in a unique multi-disciplinary setting. JADS offers various MSc Data Science programs: from a hands-on focus to exploring cutting-edge technologies. At JADS, you learn to apply effective academic thinking in making enhanced business decisions.

## Key program focus
- **MSc Data Science and Entrepreneurship**
  - Joint MSc program of TU/e and Tilburg University. Intensive technical study combined with a strong focus on both engineering and entrepreneurship.
  - A truly interdisciplinary entrepreneurship-technology analytics program. Work with data scientists and entrepreneurs alike to learn how to translate data into an (social or commercial) enterprise by mixing technology, creativity and business knowledge. This MSc program is the best choice for students wanting to successfully apply data science in practice and those who want to transform an innovative idea into a start-up.

- **MSc Data Science in Engineering**
  - This Mathematics and Computer Science MSc program is the most technically oriented of the Data Science MSc programs. Students are free to choose from a theory-based to a more hands-on program. Whatever your choice, you’ll be applying computer science and statistics to help improve real-world decisions and operations.

## Is it for me?
- **MSc Data Science and Entrepreneurship**
  - Duration: 2 years
  - Start: September
  - Location: JADS Den Bosch
  - Language: English
  - ECTS Points: 120
  - Entry requirements: Technical BSc
  - Career prospects: Data Scientist, Data Entrepreneur
  - Contact: entrepreneurship@jads.nl

- **MSc Data Science in Engineering**
  - Duration: 2 years
  - Start: September
  - Location: Eindhoven University of Technology
  - Language: English
  - ECTS Points: 120
  - Entry requirements: Technical BSc
  - Career prospects: Data Engineer, Data Architect, Data Scientist
  - Contact: DSEngineering@jads.nl

## MSc Track Data Science Business and Governance
- Learning core technical skills and understanding the impact and potential of data science in business.

## MSc Track Business Analytics and Operations Research
- Solving the most complex decision problems – from supply chain management to vehicle routing and from donor kidney allocation to train scheduling – this MSc will teach you how to optimize company processes using data and mathematical models and algorithms.

## MSc Marketing Analytics
- Collecting and analyzing customer-centric data to enhance marketing productivity.

## Entry requirements
- **Technical BSc**
- **Quantitative BSc**
- **BSc (Basic knowledge of statistics and methodology)**

## Career prospects
- **Data Scientist, Data Entrepreneur**
- **Data Engineer, Data Architect, Data Scientist**
- **Data Scientist, Business Analyst**
- **Business Analyst, Data Analyst**

## Contact
- entrepreneurship@jads.nl
- DSEngineering@jads.nl
- BaOr@jads.nl
- B&G@jads.nl
- ma@jads.nl

## Language
- English

## Duration
- 1 year
- 2 years

## Start
- September
- September & February
- September & February

## Location
- JADS Den Bosch
- Eindhoven University of Technology
- Tilburg University

## ECTS Points
- 120
- 120
- 60

## Entry requirements
- Technical BSc
- Quantitative BSc
- BSc (Basic knowledge of statistics and methodology)

## Career prospects
- Data Scientist, Data Entrepreneur
- Data Engineer, Data Architect, Data Scientist
- Data Scientist, Business Analyst
- Business Analyst, Data Analyst

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Some job profiles

The Data Entrepreneur
DS & Entrepreneurship

The Data Entrepreneur has deep knowledge of innovation processes and masters the skill of converting data in smart products and services that add value to customers and the broader society. The Data Entrepreneur is half business, half IT. They start-up companies or they work on innovative ideas within larger companies.

Languages & Tools
Python, R, Matlab, SQL, Hive, Pig, Spark

Talents & Skills
Predictive modeling, visualization, mathematics, statistics, machine learning, distributed computing

Mindset & Role
Entrepreneur, curious, ambitious, loves technology and sees the data revolution...

The Data Architect / Data Wrangler
DS in Engineering

The Data Architect is the expert who designs, develops and maintains large-scale processing systems. They can easily master technologies and large-scale processing systems. The Data Wrangler is the detective of the data, who can handle raw data, analyzing that data with the help of statistical techniques, to sharing insights in a compelling way. Highly wanted by companies like Microsoft and Google.

Languages & Tools
Python, SAS, Matlab, R, SQL, Hive, Pig, Spark

Talents & Skills
Curious, clever with data, cleans and organizes data

Mindset & Role
Entrepreneur, curious, ambitious, loves technology and sees the data revolution...

The Data Scientist
DS & Entrepreneurship + Business Analytics & OR

Is curious, good with data and masters a whole range of skills and talents from handling raw data, analyzing that data with the help of statistical techniques, to sharing insights in a compelling way. Highly wanted by companies like Microsoft and Google.

Languages & Tools
Python, SAS, Matlab, R, SQL, Hive, Pig, Spark

Talents & Skills
Predictive modeling, visualization, mathematics, statistics, machine learning, distributed computing

Mindset & Role
Curious, clever with data, cleans and organizes data

The Data Analyst
DS Business and Governance

The data analyst is the detective of the team and masters languages like Python, R, C and SQL. The required skills and talents are diverse and range the entire spectrum of the data science process and works very autonomously. Wanted by companies like DHL, IBM and HP

Languages & Tools
Python, HTML, R, Javascript, C/C++, SQL

Talents & Skills
Database systems, mathematics, statistics, visualization, communication, machine learning, spreadsheet tools

Mindset & Role
Intuitive, autonomous, collects, processes and performs statistical data analyses

Marketing Analyst
Marketing Analytics

Is less technically oriented but has a deep knowledge of the different business processes. Masters the skill of linking data insights to actionable business insights. Uses storytelling techniques to communicate and often acts as the intermediary between the techies and the business people. In demand at companies such as Oracle, HP, or AirBnB.

Languages & Tools
SQL, Tableau, MS Office

Talents & Skills
Data modeling, data visualization tools, business intelligence

Mindset & Role
Project manager, improves business processes, linking pin between IT and business

The Data Engineer
DS in Engineering

Often has a software engineering background and loves databases and large-scale processing systems. Can easily master technologies. The engineer is familiar with various languages: from statistical programming languages to more web development oriented languages. Interesting to companies such as Facebook or Spotify.

Languages & Tools
Hive, SQL, Matlab, Java, Python, Ruby, C++, Perl, SPSS, SAS, Pig

Talents & Skills
Data APIs, data modeling, data warehousing solutions, database systems

Mindset & Role
All-rounder, develops, constructs, tests and maintains architectures

Business Analyst
Business Analytics & Operations Research

Is great at getting useful insights from data based on a strong background in statistical theories and mathematical methods, a logical and quantitative mindset. Harvests the data and uses it to make optimal decisions. Handles all sorts of data and is able to quickly master new technologies. Excellent career opportunities: Quintiq, ORTEC.COM.

Languages & Tools
Matlab, R, YALMIP, SPSS, SAS, Stata

Talents & Skills
Optimization, data mining, mathematical and statistical theories and methods

Mindset & Role
Logical and loves working with data and mathematics. Enjoys the challenge of solving complex decision problems

Chief Data Officer or Analytics Manager
Marketing Analytics or DS and Entrepreneurship

Steers the data science team and ensures the right priorities are set. Combines strong technical skills in various technologies (SAS, SQL, etc.) with the social skills required to manage a team. HTC, Coursera or Slack are highly interested.

Languages & Tools
SQL, Python, Java, Matlab, Sas, R

Talents & Skills
Leadership, database systems, interpersonal communication, data mining, predictive modeling

Mindset & Role
Technical & social manager, team leader

Learn to exploit the data revolution...
About JADS

Innovating with data has the potential of helping us unlock changes for the better in almost everything we do. Jheronimus Academy of Data Science aims to enhance the study, research and application of data science. JADS is at the centre of an eco-system where research and real-world challenges meet and where team spirit is key to the successful development of data science solutions. JADS is a joint collaboration between Tilburg University and Eindhoven University of Technology. JADS offers data science programs at undergraduate, graduate and post-graduate level to educate the data scientists of the future.

More information? Visit www.JADS.nl