



# Data Science for Experts

Certificate program in data science for professionals

7-month (Level 1) or 12-month (Level 2) program

# Data Science for Experts

Big Data and analytics are changing the world rapidly... this unique course prepares you for a leading role in this new reality.

The JADS Data Scientist program is a certificate program for professionals based on the dual perspectives of the universities of Eindhoven and Tilburg. The program can be completed at Level 1 (7 months) or Level 2 (1 year) and is targeted at professionals who want to learn to develop machine-learning solutions, and who are also interested to learn the business implications of data science.

## A program designed for eager data scientists

The program trains all-round professional data scientists, who are both tech-savvy and business-savvy. Participants have affinity with analytics and IT, and the ambition to learn programming skills.

They have the ambition to grow into a senior professional position, combining technical expertise with boundary-crossing skills in leadership, entrepreneurship, complex problem solving and critical thinking.



Chapel in the Marienburg

## Become an all-round data scientist

Upon completion of the program, you will master in-depth technical skills in machine learning, data engineering and data analytics. You'll have a theoretical understanding and hands-on experience doing practical projects. You'll have the capability to organize and technically contribute to a data-science team. You recognize and master the opportunities and practical applications of data science in your own sector (professional services, industry, health, supply-chain, energy or public sector).

The program follows three modules: Foundation (7 weeks), Level 1 (5 additional months) and Level 2 (5 additional months).

## Foundation (7 weeks, 1 day per week)

The program offers an orientation in data science, Big Data, new analytics and new business opportunities. You will learn predictive analytics, the theory of supervised and unsupervised learning, and their practical applications in a Python-based analytics environment. You practise applying machine learning in the data-analytic workflow embodied by the CRISP-DM model. Depending on your skill level in programming, you may need up to 4 weeks of self-study in an online learning environment where you learn coding in Python.

## Level 1 (5 additional months, 1 day per week)

The core program in data analytics, data engineering and data entrepreneurship trains you as an all-round data scientist. You also choose a sector specialization, where you learn typical applications specific for your sector, such as predictive maintenance, computational personalized healthcare, natural language processing or deep learning.



Together with a team of classmates, you develop a realistic data-science solution in a complex and challenging group project. Upon completion of this level, you become a Certified Data Scientist.

## Level 2

(5 additional months, 1 day per week)

If you decide to continue to the second level, the last module offers a number of deep-dives in advanced-level topics, including privacy law & data security, process mining and advanced data architectures. In a two-day bootcamp you participate in a hackathon with your classmates. The Level 2 training revolves around learning to lead a data-science initiative and achieve real impact. With the support of JADS experts and professors you implement a data-science application in your own organization and help your organization create business value from data and analytics. Upon completion of this level, you become a certified Data Scientist.

## Teaching methods

Real challenges make learning motivating, help get your organization involved, and are a catalyst to achieving real impact. During the program, you complete three CRISP-DM data-science projects: a stylized team assignment in the Foundation program, a complex and realistic group assignment in the Level 1 program, and finally a substantial project in your own organization, supervised and supported by JADS experts, and delivering real impact and creating value for the organization.

## Become part of our community

The Mariënborg, a former convent in the historical center of Den Bosch is JADS' home. It's a welcoming, inspirational and atmospheric

environment for life-long learning and becoming part of our community, with the former chapel functioning as the main auditorium, and the vast complex offering many surprising authentic details reminiscent of its former function (and housing a large number of data-driven startup companies).

## Data scientists are T-shaped professionals

The T-shape visualizes the idea that a successful career is based on the combination of deep technical expertise (the vertical bar) and wide and broad boundary-crossing skills (the horizontal bar).

We develop T-shaped Data Scientist who are both tech savvy and business savvy. Who do understand the technical skills of data engineering and know how to use data-warehouses, build a data pipeline and access Big Data cloud solutions. But who also understand how business models and strategies work, are able to manage data-science projects delivering results, and in general, know what it takes to get things done in large and complex organizations.



## Our professors

The program is taught by a combination of senior experts working in business and society, and professors from Eindhoven University of Technology and Tilburg University. In the assignments, you are supported by a Community Academic Director who combines an academic affiliation with practical expertise in your sector (professional services, industry, health, supply-chain, energy or public sector).



Prof. dr. Jeroen de Mast

The program's teaching team is headed by Professor Jeroen de Mast. Jeroen is professor of statistics and data science at the University of Waterloo (Canada), Scientific Director at Holland Innovative, and Academic Director of Professional Education at JADS.

Throughout his career, he has combined his academic positions with a career as a consultant and professional trainer in applied analytics and leading transformation processes. Jeroen is an original and scholarly thinker, and an inspirational speaker, with a talent for explaining the essence of matters with much clarity.

## Information session

Join one of our information sessions. Discuss the program and your ambitions with JADS' professors and get to know your peer cohort. Register at our website.

## Contact us

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## Change the world with Data Science

"I look back on a year in which I gained new insights, new knowledge, met a lot of new people and it made me understand the world better. Especially the world of Data Science. If you want to know why the world is changing and how you can benefit from that, you should definitely study Data Science at JADS"

- Sven van Egmond - JADS Participant"



# Program in brief



May & November



Den Bosch / Online



Certificates:  
Certified Data  
Scientist (Level 1)  
Certified Lead Data  
Scientist (Level 2)



€ 9,950 (Level 1)  
€ 18,950 (Level 2)



8 hrs/week (class)  
+ 8 hrs/week  
(assignments)



7 Months (level 1)  
1 year (level 2)

