



Data Science and AI for Industry

Certificate program in Data Science and AI for Professionals in Industry

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

Data Science and AI for Experts

The progress in analytics and the availability of large amounts of data and computation power are changing the world rapidly. This unique course prepares you for a leading role in this new business reality..

The JADS Data Science & AI for Industry program is a certificate program for professionals in industry 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 in industry who want to learn to develop machine-learning and AI solutions, and who are also interested in implementing these in industry applications.

A program designed for eager Data Science & AI experts

The program trains all-round professional AI experts and 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.

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

Become an allround AI Expert

Upon completion of the program, you will master essential techniques in data analytics and AI, and have hands-on experience applying theory in a complex and realistic data-science and AI project. You'll have the capability to organize and technically contribute to an analytics team. You recognize and master the opportunities and practical applications of data science and AI in industry, logistics, manufacturing and high-tech.

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)

- Orientation in Data Science and AI: new analytics and new business opportunities
- Machine learning: theory of supervised and unsupervised learning and their practical application in a Python-based analytics environment
- Data-analytic project execution methodology as embodied in a CRISP-DM Model



Level 1

(5 additional months, 1 day per week)

- Core program in data analytics, machine learning, data engineering and data entrepreneurship
- Specialization: Data Science and AI in industry, logistics, manufacturing and high-tech.
- Complex and challenging group project, where you and your team develop a realistic data-science and AI solution.

Level 2

(5 additional months, 1 day per week)

- Advanced-level program, including data leadership & entrepreneurship, process mining, anomaly detection, practical deep learning, reinforcement learning, text mining and other advanced applications.
- Electives, including advanced data architectures, data science and cognitive science, advanced machine learning, and business analytics.
- Boot camp: This two-day experience revolves around different teams and one AI challenge to be solved, following the format of a hackathon.
- Professional skills: Lectures and individual coaching in taking a leading role in the development of your organization's data and AI ambitions.
- In-company project supported by JADS and EAISI experts.



Teaching methods

Teaching does not start from theory and technology, but from challenging assignments. Real challenges make learning motivating, helps to get your organization involved, and is 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, supported by technical experts and the Community Directors in the Level 1 program.
- A substantial project in your own organization, supervised and supported by JADS and EAISI experts, and delivering real impact and creating value for the organization (Level 2 program).

Become part of our community

The JADS and EAISI Community: Upon entering the program as from level 1, you will be part of the JADS and EAISI Community of companies, students, startups, professionals, NGOs and academic staff, who all have a passion for Data Science and AI.

We organize network events, inspirational talks and many other activities. It's also a market for finding business partners and expert help for data and AI challenges. The Community embodies our belief in the importance of life-long learning.



Data-science and AI experts are T-shaped professionals!

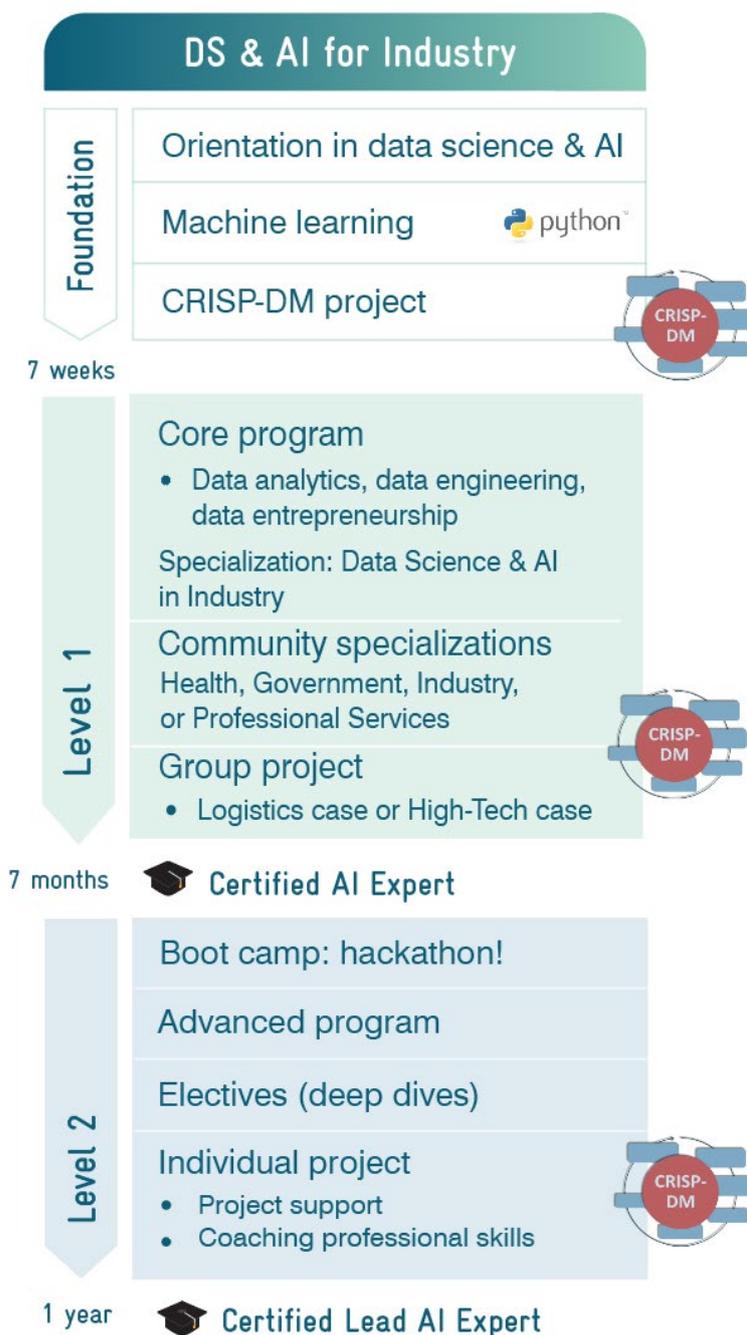
The T shape visualizes the idea that a successful career is based on the combination of deep technical expertise (the vertical bar) and wide and broad boundary-crossing skills (the horizontal bar).

Data-science and AI experts master the technical skills of machine learning and data engineering, and know how to build, evaluate, and deploy data-science and AI applications. They can translate a business opportunity into a data-science and AI problem, apply the data-analytic workflow to develop a model, and test and implement it in a Python environment.

Data-science and AI experts are also business savvy, understand how business models and strategies work, are able to manage data-science and AI projects delivering results, and in general, know what it takes to get things done in large and complex organizations.

Data science and AI are changing what organizations do

Data-science and AI applications in professional organizations range from initiatives to making current processes and services more efficient. Common applications are in smart maintenance, product design, production planning, logistics planning, product and reliability improvement, anomaly detection and early warning systems. But organizations should also think beyond the horizon of current products and services, as data science and AI are creating important opportunities to augment products with new value based on analytics-driven services, and in the long run are the basis for new, data-driven business models.



Our professors

The program is taught by a combination of senior experts working in business and society, and professors from Eindhoven Technical University 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 (industry, manufacturing, logistics, high-tech).



prof.dr.ir. Wim Nuijten

Prof.dr.ir. Wim Nuijten is Scientific Director of the Eindhoven Artificial Intelligence Systems Institute (EAISI) at Eindhoven University of Technology (TU/e) and a Data Science, Artificial Intelligence, and Operations Research entrepreneur. His main industrial interests lie in developing powerful, easy to use, innovative planning and scheduling applications. He has two main scientific interests i) modeling real-life planning and scheduling problems and using Constraint Programming, Local Search, Adaptive Large Neighborhood Search, Machine Learning, Mathematical Programming, and their combination to solve those problems and ii) using Machine Learning and Data Science to do sports analysis like human pose estimation, automated human movement analysis, performance prediction in cycling, and player and match analysis in football.

He has extensive teaching experience both in TU/e Master programs and in Jheronimus Academy of Data Science Professional Education programs and is an enthusiastic and active supporter of Challenge-Based Learning.



dr. Freek Aertsen

The program's teaching team is headed by Freek Aertsen. Freek Aertsen studied Business Administration (specialization Supply Chain Management) at Tilburg University (cum Laude) where he also obtained his Ph.D. As co-founder and senior consultant at EyeOn he executes projects to improve forecasting and planning performance at companies like NokiaSiemens Networks, Alcatel-Lucent, Logitech and DSM. He has a wide experience in the design and implementation of supply chain planning models in various industries and countries. At JADS his main focus will be on teaching courses in Predictive Analytics (forecasting).

Information session

Join our information sessions. Discuss the program and your ambitions with JADS's professors. Register at our [website](#)

Contact us



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Program in brief



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Den Bosch



Certified AI Expert
or Certified Lead AI
Expert



€9,950 (Level 1)
€18,950 (Level 1+ 2)



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



7 months (level 1)
1 Year (Level 1 + 2)

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Jump on the train of AI

I noticed that the world around me was changing. So much happened in the field of data. At work I couldn't always find the answers. I already read a lot about data science, but I wanted to develop myself. Jump on the train of AI and machine learning and really get the hang of what it was all about. And I definitely learned that.

Michael Janus. Software engineer ThermoFischer

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