

## **PhD positions in Artificial Intelligence (AI) for sustainable manufacturing (Maastricht University)**

*The Department of Data Science and Knowledge Engineering (DKE) at Maastricht University, the Netherlands, is looking for PhD candidates in AI for sustainable manufacturing.*

In a joint collaboration with VDL Nedcar, the largest Dutch automotive manufacturing company, you will work in a team to investigate AI techniques within VDL Nedcar's manufacturing environment. The ultimate goal is to make intelligent decisions in a transparent and reliable way, reduce costs, and save energy and reduce overall CO2 emissions. The developed AI technology will be embedded in a Digital Twin: a real-time simulation of VDL Nedcar's battery line for the production of electronic vehicles.

As a PhD candidate, you will primarily address the following four topics: (1) planning & scheduling (2) prescriptive quality (3) predictive maintenance and (4) hybrid intelligence.

These PhD positions are part of the *Green Transport Delta*, a public-private innovation programme that aims to make Dutch transport sectors futureproof and sustainable. You will be embedded in the consortium around electrification, which focuses on improving various aspects of battery-powered electric transport as a key component of the transition to climate-neutral mobility.

You will be expected to:

1. perform scientific research in AI for sustainable manufacturing as described above;
2. publish results at (international) conferences and in international journals;
3. collaborate with other group and faculty members;
4. assist with educational tasks (e.g. assist in courses, supervise Bachelor/Master students).

Requirements:

5. MSc degree in Computer Science, Artificial Intelligence, Data Science, Operations Research, Applied Mathematics;
6. Strong programming skills;
7. Proficiency in English (oral and written);
8. Excellent communication skills;
9. Ability to collaborate in an international setting.

### **\*\*\*\* CONDITIONS OF EMPLOYMENT**

The full-time position is offered for a duration of four years, with yearly evaluations. The salary will be set in PhD salary scale of the Collective Labour Agreement of the Dutch Universities (€2.434 gross per month in first year to €3.111 in the fourth and final year). On top of this, there is an 8% holiday and an 8.3% year-end allowance. The terms of employment of Maastricht University are set out in the Collective Labour Agreement of Dutch Universities (CAO). Furthermore, local UM provisions also apply. Non-Dutch applicants could be eligible for a favorable tax treatment (30% rule).

### **\*\*\*\* ORGANIZATION**

**Maastricht University.** Maastricht University (UM) has around 22,000 students and 4,500 employees. Reflecting the university's strong international profile, a fair amount of both students and staff are from abroad. Research at UM is characterized by a multidisciplinary and thematic approach, and is concentrated in research institutes and schools. UM placed #6 in Times Higher Education's (THE) Young Universities Ranking

2021, and #127 in THE's World University Rankings 2022.  
<http://www.maastrichtuniversity.nl>

\*\*\*\* DEPARTMENT

**The Department of Data Science and Knowledge Engineering.** Founded in 1992, we are a fast-growing department undertaking internationally respected research in the areas of computer science, artificial intelligence, data science, robotics and applied mathematics. Much of our research takes place at the interfaces of these disciplines. We maintain a large network of industry partners and provide education through one bachelor's programme and two master's programmes.

Our new colleague(s) will be joining a tight-knit department consisting of ~70 principal investigators, postdocs and PhD students, 800 BSc and MSc students and a team of dedicated support staff members. Together, we come from over 40 different countries.  
<https://www.maastrichtuniversity.nl/dke>

**The Faculty of Science and Engineering.** Maastricht University heavily invests in the growth of its STEM research and education. The Faculty of Science and Engineering – which houses the Department of Data Science and Knowledge Engineering – is one of the focal points of these developments. Within the Faculty of Science and Engineering, over 260 researchers and more than 2,700 students work on themes such as fundamental physics, circularity and sustainability, data science and artificial intelligence.  
<https://www.maastrichtuniversity.nl/fse>

\*\*\*\* HOW TO APPLY

Applicants are asked to prepare an application consisting of:

Your application must contain the following documents (all in English):

1. cover letter (1 page max), which includes a motivation of your interest in the vacancy and an explanation of why you would fit well for the PhD position;
2. a detailed curriculum vitae;
3. a course list of your Masters and Bachelor programs (including grades);
4. results of a recent English language test, or other evidence of your English language capabilities;
5. name and contact information of two references

Applications received by December 15, 2021 will receive full consideration. Applicants may be called in for an interview. We intend to fill this position as soon as possible; the starting date for this position is early, 2022.

Applications for these positions can be directed to:  
Prof. Mark Winands, [m.winands@maastrichtuniversity.nl](mailto:m.winands@maastrichtuniversity.nl) or  
Prof. Frank Thuijsman, [f.thuijsman@maastrichtuniversity.nl](mailto:f.thuijsman@maastrichtuniversity.nl).