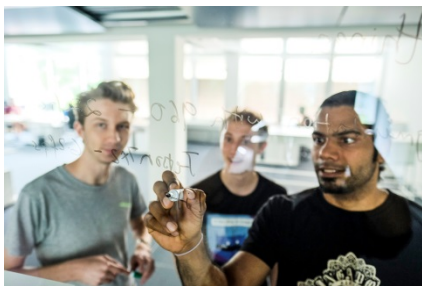

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Artificial intelligence is becoming a key competitive factor”

- The Volkswagen Group IT Information Technology Center Munich (Data Lab) is the Volkswagen Group’s competence center for machine learning and artificial intelligence (AI)
- Specialists carry out fundamental research and test applications within the Group

Wolfsburg/Munich, September 20, 2017 – How do people think? On what basis do they take decisions? And how can artificial intelligence help them in the future? These questions are being pursued by an international expert team at the Volkswagen Information Technology Center Munich (Data Lab). The team includes IT experts, robotics specialists, data scientists, programmers, physicists and mathematicians, all working hand in hand. Together, they are preparing Volkswagen for the future. On dozens of monitors, code lines, graphs and 3-D diagrams flash across the screen. What you can see here in machine language could help accelerate corporate processes, optimize traffic flows and guide autonomous vehicles safely through the traffic in the future.



The Volkswagen Information Technology Center Munich (Data Lab) is the Group’s competence center for machine learning and artificial intelligence.



Prof. Dr. Patrick van der Smagt: “We are exploring and creating algorithms that can identify and predict patterns and laws more and more reliably”

“We are developing learning systems. We are exploring and creating algorithms that can identify and predict patterns and laws more and more reliably,” says Prof. Dr. Patrick van der Smagt, who is responsible for AI research at the Data Lab. One of the areas where he and his team are active is deep neural networks. In these networks, the algorithm gains information in several steps and compares it with what has already been learnt. This way, the system can detect patterns and laws

more and more reliably. “We are carrying out fundamental research in this field,” says van der Smagt. “Volkswagen is at the leading edge.”



Specialists from various fields are working at Volkswagen Information Technology Center Munich (Data Lab).



Dr. Hakan Duman: “What corporate processes and tasks are well-suited for the use of AI and how can this approach be implemented?”

A few doors away, down a glazed corridor, theory is succeeded by practice. Dr. Hakan Duman and his team are concerned with the application of such advanced AI systems. Duman heads the data science and applied AI section of the data lab. “We test AI systems and always ask a number of questions: Where can AI systems be used effectively? What corporate processes and tasks are well-suited for the use of AI and how can this approach be implemented?” says Duman.

Duman’s team is working on a number of different projects mainly focusing on applications and processes within the company. These include, for example, AI systems for intelligent robots which are to work hand-in-hand with human beings in the future. Another project deals with the next generation of traffic flow optimization. The team is also working on possibilities of protecting sensitive data from attack by hackers using advanced AI systems.

A change of scene: the Wolfsburg plant, headquarters of the Volkswagen Group. CIO Dr. Martin Hofmann sits in a simply equipped office. “Artificial intelligence is becoming a key competitive factor and will be an essential element in many technologies and corporate processes,” says Hofmann. “This is why we are laying the foundation for the independent development and use of high-performance AI systems at Volkswagen. We have a clear goal. We do not want to leave know-how to others.”

It is by no means just a question of feasibility. “We work intensively on ethical aspects. For us, the use of artificial intelligence is not an end in itself. Artificial intelligence must always help human beings in a meaningful way,” says Hofmann. This is another reason why Volkswagen consistently adopts an open source approach. Major sections of the software are made available to the public and the development work carried out by the specialists is transparent and can be verified.

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Hofmann emphasizes: “AI systems will provide support for people but people will remain the decision-makers.”



Group CIO Dr. Martin Hofmann: “AI systems will provide support for people but people will remain the decision-makers.”

In the Volkswagen Information Technology Center Munich, the group’s artificial intelligence competence center, people keep their fingers on the button. Sometimes this applies quite literally. If a few lines of code do not function as expected. All that people can do, even in the high-tech center, is to firmly press the “restart” button.



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