

New: Impulse paper on artificial intelligence in electrical engineering

- **In 2022, the VDE, together with professors, established AI and machine learning as a research field of electrical engineering and information technology at the DFG**
- **In the new VDE impulse paper, experts such as Prof. Dr.-Ing. Gerhard Rigoll and Dr.-Ing. Mathias Magdowski comment on the potential and limits of the technology**
- **AI is an integral part of everyday engineering in teaching, studies and a wide range of applications from communications engineering to the energy industry**

(Frankfurt a. M., 29.10.2024) The VDE is publishing a new impulse paper entitled *The role of artificial intelligence in electrical engineering and information technology*, which is aimed at students and teachers as well as practitioners who are fully engaged in their day-to-day work. "AI plays an important role in practically all specialist areas of electrical engineering and information technology," explains Dr. Michael Schanz from the VDE Committee for Studies, Careers and Society. "With the impulse paper, we show that artificial intelligence and electrical engineering are interrelated: AI is an important tool in everyday work and engineering and at the same time the subject of electrical engineering research, keyword neuromorphic computing."

What many people don't know: The beginnings of adaptive software for applications in electrical engineering date back to the 1990s. Previously based in computer science, Prof. Gerhard Rigoll held the first lectures on artificial intelligence in the Department of Electrical Engineering in 1994. In 2022, however, the VDE, in collaboration with a group of professors, succeeded in establishing AI and machine learning in the official subject canon of electrical engineering and information technology at the German Research Foundation (DFG). "In my article, I explain the positive influence this step has had on the allocation of funding for research projects," says Schanz.

Use potential, know the limits: AI in electrical engineering and information technology

After a look at the beginnings and present of artificial intelligence in electrical engineering teaching, authors such as Dr.-Ing. Mathias Magdowski provide practical tips for students on the use of ChatGTP, Gemini or Antropic. Among other things, they discuss how tasks in university teaching can be solved with the help of AI and how to work with scientific publications with the help of AI.

Professional researcher Dr. Britta Matthes deals with the question of the extent to which artificial intelligence can replace the work of electrical engineers and what role it can play in overcoming the shortage of skilled workers.

Other contributions deal with the importance of AI in everyday working life and various fields of application such as communications engineering, the energy industry, automation and electronic design automation. "With these diverse contributions, we want to highlight the potential and limitations of current systems. AI is an absolute driver in electrical engineering and information technology, which makes our specialist areas even more attractive for young talent."

The VDE paper The role of artificial intelligence in electrical engineering and information technology is available for download [here](#) (German version).

About VDE:

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 130 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development "on the job". Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical. Shaping the e-dialistic future.

The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit www.vde.com

Press contact: Jennifer Bounoua, Phone +49 151 14600477, presse@vde.com