Foreword

When people talk about breakthrough technologies today, artificial intelligence (AI) is at the forefront. More and more fields are being supported by it in their scientific, economic and social challenges. The year 2021 undoubtedly highlights two areas in particular where AI is not only urgently needed, but its development is being driven forward rapidly while being viewed with some scepticism in society: healthcare and data protection.

The COVID-19 pandemic shows that our society, despite its high level of development, remains vulnerable to ancient threats. However, it also shows that humanity is capable of finding a response, albeit imperfect, in a very short time. To this, artificial intelligence provides significant contributions. It would be unthinkable to manage the analysis and processing of the huge amounts of data needed, especially in the emerging field of medical image and data analysis, to find a solution without AI. The pandemic has also made us realize that big data is not just generated as measurement data by sensor systems. Home schooling, home office, online banking, online shopping, etc. also generate a huge amount of data, which in its nature is personal. Artificial intelligence can be used to draw automated conclusions from this data that touch on privacy. This is not desirable. As such, data protection and the legal and ethical framework for using this data are becoming increasingly important.

The TriRhenaTech alliance of universities of applied sciences from the Upper Rhine region has been addressing the topic of artificial intelligence for many years. After the focus in previous years at the conferences in Offenburg and Karlsruhe was on application-oriented AI research in the industrial sector, the focus at this year's conference in Kaiserslautern is on the aforementioned current topics from health, Life sciences, data protection and beyond. The at hand conference proceeding contains the articles on the oral and selected poster presentations. We hope you enjoy reading them and we would be pleased if you find interesting approaches, worth to be considered. We encourage you to contact the authors, jointly develop the ideas presented there further and possibly incorporate them into new products.

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