Kirchner *AI Perspectives* (2019) 1:1
https://doi.org/10.1186/s42467-019-0001-1

EDITORIAL Open Access

AI-Perspectives: an editorial

Frank Kirchner

In this journal we will have to discuss the many challenges and applications that AI in the time of increasing -computational- resources can achieve, how can it be applied and what the consequences of its application are. We will have to discuss about the feedback to basic AI research that is provided by the application of an AI-algorithm or concept to a given and real problem. Furthermore, we will have to debate on how we got used to hearing yet another story on yet another 'successful' application of AI to yet another a problem instead we must discuss the question how can we focus on carving out what exactly have we learned from this application, what new fundamental questions have been revealed by this application and does the application provide new insights for basic research. In other words, we will have to discuss about measures of success for the useful application of AI to real world problems and this journal shall be the place to have these discussions.

In order to develop measures of success for AI, we need to discuss the consequences of the application of an AI algorithm or concept to a real world problem. Does it help society or mankind, what are the pros and cons of its application and what are the framework conditions under which this particular algorithm can be applied. Framework conditions could foremost be discussed in the light of the continuously growing power that AI-research has provided to mankind. Is mankind ready for this power? If not, then what is needed to achieve this readiness.

These are questions that need to be discussed in a journal that tries to peek into the future of AI-research. And finally, we need to ask ourselves the question: what if our computational power and thus the power of AI-systems will still grow and actually break through the barrier of the until now unpredictable natural environment or physics. What if in fact we will someday be able to combine AI and quantum computing technologies? What if a sort of Quantum-AI will at some point be able to compute next to everything? Are we really ready for this?

Correspondence: frank.kirchner@dfki.de
Deutsches Forschungszentrum für Künstliche Intelligenz GmbH, Bremen, Germany

There are many questions that come up when one thinks about such possibilities and as always there is fear and there is hope. The only way we know to stay in control of both, too much fear and too much high hopes is to debate. A great place to do this is a journal and this is why a journal on the perspectives of AI is needed more than ever.

We would like to see contributions that provide systematic and substantial syntheses of specific research areas, to provide evaluations of progress in the specified areas, or to deliver a critical assessment with respect to progress and achievements in specific research areas and applications.

AI Perspectives will cover the application of AI in industry, healthcare, transport, education, social sciences and humanities and business and economics and papers are welcome to discuss a broad scope of research disciplines including:

Machine perception and multi-media sensing, autonomous vehicles, intelligent and cooperative interacting robots, speech recognition and language use, cyber-physical systems, hybrid teams and industry 4.0, knowledge representation, medical diagnosis and rehabilitation robots, process improvement and AI strategies for digital businesses, AI in legal and fintech industries, internet of things and regulation and ethics.

We adhere to a strict high-level selection process to ensure an excellent publication quality, we would also encourage authors to provide an in-depth description how basic research enables a specific application and how this application triggers new questions for basic research.

How can the integration of various AI methods in application be achieved is another central question touching upon system-oriented and integrated research as well as e.g., the interaction of data driven vs. model driven AI, while keeping in focus questions of: responsibility and ethics as well as explainability and transparency of presented approaches?

This journal will try to provide the broadest possible spectrum for discussion featuring a variety of paper formats including: research articles, reviews, case studies, commentary papers, position papers but also

doctoral dissertations that the authors want to publish in condensed format.

To stimulate a discussion among the readers of this new journal the editor in chief took the chance to write up a position paper as one of the first publications in this new journal. The paper is drawing a line from Alan Turing's early work on AI in the face of very limited computational resources to contemporary applications of AI in the light of ever-increasing computational resources and to possible future facing an era of quantum computation with next to unlimited computational resources. The paper is meant to stimulate a discussion and to trigger commentaries on the positions and perspectives described in the paper.

Let us begin to do what we can do best, let us begin to think and talk...

Acknowledgements
Not applicable.

Author's contributions
FK was the mayor contributor in writing the manuscript and read and approved the final manuscript.

Funding
Not applicable.

Availability of data and materials
Not applicable.

Competing interests
The author declares that he has no competing interests.

Received: 22 July 2019 Accepted: 25 July 2019
Published online: 03 September 2019

Publisher's Note