



## Abductive Cognition and Machine Learning: Philosophical Implications

Guest Editor:

**Prof. Dr. Woosuk Park**

School of Humanities and Social  
Sciences, Korea Advanced  
Institute of Science and  
Technology (KAIST), Daejeon  
34141, South Korea

woosukpark@kaist.ac.kr

Deadline for manuscript  
submissions:

**1 December 2021**

### Message from the Guest Editor

We are living in the age of AI. If DeepBlue was a mere astral signal, AlphaGo was a symbolic announcement of the beginning of a new era. Now, as AlphaFold 2 takes another huge step towards the goal of AGI, AI is changing all aspects of our lives. How should we understand this phenomenon and its far-reaching philosophical implications? While machine learning is known to be the key to enhancing AI algorithms, recent advances in cognitive neuroscience have been another crucial factor. Nevertheless, much is still unknown about how these advancements in AI are possible. How are we to fathom super-intelligent machine minds in order to live well together with them in the future? Turning to abductive cognition seems to be a natural strategy to answer this question, as it has elements of both intuition and inference. Pioneered by C.S. Peirce in the late 19th century, abduction was studied extensively in logic, philosophy of science, cognitive and computer science, AI, law, and semiotics during the 20th century, and several notable monographs on abduction have been published in the first two decades of the 21st century, uncovering the logical form and various patterns of abduction.





an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Marcin J. Schroeder**

Global Learning Center, IEHE  
(Institute for Excellence in Higher  
Education), Tohoku University,  
Sendai 980-8576, Japan

## Message from the Editor-in-Chief

*Philosophies* searches for the syntheses of philosophical and scientific inquiries. It promotes philosophical work that is derived from the experience of diverse scientific disciplines and cultures. Multiple philosophies already exist — those of logic, information, computation, natural and artificial life, natural or artificial intelligence, complexity, technology, etc. Our mission is not to abandon philosophical roots and traditions of inquiry, but to promote the development of philosophical foundations and effective methodologies derived from diverse scientific explorations, and intended to enhance these explorations as to generate deeper and more holistic knowledge. Innovation may also be achieved through the cultural dimension. Other cultures can offer from their heritage a diversity of resources for exploration; these resources can also contribute to the emergent synthesis of philosophical inquiry.

## Author Benefits

**Open Access:**— free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, ESCI (Web of Science), PhilPapers, and many other databases.

**Rapid Publication:** manuscripts are peer-reviewed and a first decision provided to authors approximately 20.4 days after submission; acceptance to publication is undertaken in 6.2 days (median values for papers published in this journal in the first half of 2021).

## Contact Us

*Philosophies*  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
Fax: +41 61 302 89 18  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/philosophies](http://mdpi.com/journal/philosophies)  
[philosophies@mdpi.com](mailto:philosophies@mdpi.com)