Editorial

Current paradigms of artificial intelligence (AI) are poorly theorized in the context of society. All the four main paradigms, 1) modeling neural networks, 2) modeling genetics, 3) modeling genealogy, and 4) modeling physical phenomena, are based on the philosophy of natural sciences, which do not consider societal impact and dynamics of the world as part of the formula. Natural science focuses on investigating closed systems; therefore, all the AI algorithms must be strictly framed. Thus, the operating environment for artificial intelligence algorithms is limited and cannot be utilized in the natural environment of our society. There is no general artificial intelligence and no generally accepted data, methodology, or AI models, which could be utilized to analyze the dynamic of our society.

Hubert L. Dreyfus (1972) criticizes the artificial research community, that they do not understand the nature of human thinking, i.e. how experts solve the problem intuitively, without rational calculations. What is intuition? How does it help us to learn to understand AI models of the world? Hubert L. Dreyfus (1972) de-mystified the concept of intuition. His intuition equals the long historical experience, where the human expert finds instant solutions without rational calculation. The AI community tries to comprehend the world based on historical data, but the data lacks experience, which is the essence of intelligence.

Also, research settings and methods to delve into dynamic operations of the world concerning AI algorithms must renew. The dynamic operation of AI algorithms in the world is barely known and weakly understood in AI scientific communities, raising importance to investigate processes and dynamics in the world and unfolding paradigms of AI algorithms from a monistic philosophical point of view.

The scientific theories are a prediction of the future. It is vital to understand AI theory and mathematics "Principles of mathematics." Also, understanding physiological phenomena are vital to deeply comprehend, explain and reflect the AI models and their influence on our dynamic world. For instance: Newton's universal law of gravitation states that any particle of matter in the universe attracts any other with force varying directly as the product of the masses, and inversely as the square of the distance between them. The force applied is the product of mass and accelerator. Every object in the universe attracts every other object with force directly proportional to the product of their masses and inversely proportional to the square distance between them. Thus, Newton's universal law of gravitation is relative. Therefore, gravitation force will have more magnitude if the mass of the objects increases and less magnitude if the distance between objects enlarges.

Why study AI unsupervised learning models of prediction? Prediction is the essence of intelligence, where context-based predictions have become vital to advantage in unsupervised learning prediction models. Learning AI models of self-supervised or/and unsupervised learning to deal with the uncertainty of the prediction in the context of high dimensional spaces opens up the doors for AI in our real-life society, not only life for virtual reality. How can we deal with the uncertainty of AI in the context of high dimensional spaces, such as in traffic? It utilizes the Whiteheadian concept of eternal objects to conceptualize the world's theoretical foundations of learning AI models. I assume that the AI predictive algorithms function as Whiteheadian eternal objects and are located outside space and time. To diminish the uncertainty of learning predictive models of the world. We need to focus on the new unsupervised, dynamic and unilinear physical geometrical form of learning. Time, space, and motion are the main elements to predict the dynamic world, where the physical, emotional, and material world is intrinsically entwined.

Thus, the space tells objects where to go and how to curve and place objects that are continuously moving, iterating, and overlapping each other. The objects in space are simultaneously in relational order and chaos, and build symmetric and asymmetric forms. Thus, it is most interesting to delve into the intersection of internal and external, where the world's dynamic is changing.

Then unsupervised deep learning models are the most promising field in AI. We need new unsupervised learning models so that machines can deal with this uncertainty of our society's high-dimensional spaces. Unsupervised AI's have shone a light on strong AI or Artificial General Intelligence (AGI). Why? Because novel theoretical foundations of Artificial General Intelligence (AGI), nanotechnology, predictive models of the world, unsupervised learning strategies, deep learning predictive algorithms, and 3D mathematical models of high dimensional space. The theoretical view of learning to predict the world's dynamic is the philosophical approach to artificial intelligence, which describes the typical path of research that would lead to general artificial intelligence—next-generation machine learning models.

The scientific community does not yet have a common understanding of the research path that would lead to combining society and artificial intelligence. The evolution of predictive technology is proceeding towards the use of unsupervised deep learning models that enable sophisticated ways of processing the uncertainty that stems from predictions. Such technology is not widely employed in the publicly in Finland. However, the situation is rapidly changing with the national AI program established by the Ministry of Finance. The unsupervised learning models and nanotechnology are the next step of developing next-generation machine models, general and robust artificial intelligence. Artificial general intelligence (AGI) can clearly understand things and their connections than current narrow artificial intelligence. Artificial general intelligence would have the features of common sense. Nor does it necessarily have its own will and consciousness, but some degree of understanding of the world around it nonetheless.

As described above, artificial intelligence is deeply entwined in our contemporary society. This special issue endeavours to unfold these hidden layers of AI (Laakkonen 2021), and to reflect on AI's influence on our society. The edition delves into bureaucratic routines and error management in algorithmic systems (Pääkkönen 2021); AI in the Higher Education (Popkhadze 2021); and ambidextrous utilization of AI in policing (Korhonen, Heino & Laine 2021), contributing to understanding artificial intelligence as part of decision making in public administration; sheding light into the benefits and risks of AI in regards to organizational development and public policy formation; and theorizing on the utilisation of AI in public sector work.

Editor-in-chief

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