



*algorithms*

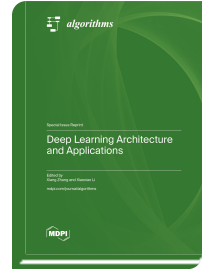


*Special Issue Reprint*

## Deep Learning Architecture and Applications

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As one of the fastest-growing topics in machine learning, deep learning algorithms have achieved unprecedented success in recent years. Novel paradigms (such as contrastive learning and few-shot learning) in deep learning and rising neural network architectures (e.g., transformer and masked autoencoder) are dramatically changing the field of data-driven algorithms. More importantly, deep learning models are redefining the next generation of industrial applications spanning image recognition, speech processing, language translation, healthcare, and other sciences. For example, recent advances in deep representation learning are allowing us to learn about protein 3D structures, which sheds new light on fundamental medicine and biology along with potentially bringing in billions of dollars (e.g., in the pharmaceutical market). This collection gathers the advanced studies of novel deep learning algorithms/frameworks and their applications in real-world scenarios. The topics cover, but are not limited to, supervised learning, explainable deep learning, finance, healthcare, and sciences.



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