

## Special Issue

# Application of Deep Learning for Neural Systems

### Message from the Guest Editors

Different biosignals such as electroencephalography (EEG), electrooculography (EOG), and electromyography (EMG) are indicative of neural system function. Medical images, acquired with computed tomography (CT), magnetic resonance imaging (MRI), ultrasound, and positron emission tomography (PET), can also be used to gather information about the functioning of brain.

Based on this information, it is possible to monitor and diagnose a wide range of neurological disorders, including Parkinson's disease, Alzheimer's disease, autism, brain tumors, brain cancer, epilepsy, schizophrenia, mitochondrial dysfunction, attention deficit hyperactivity disorder (ADHD), movement disorders, multiple sclerosis, myopathy, neurodegenerative diseases, neuromuscular disorders, neuropsychiatry, neuropsychology, pain, sleep stages, sleep disorders, stroke, and other neurological diseases. Nowadays, deep learning techniques like convolution neural networks (CNN), long short-term memory (LSTM), autoencoder, deep generative models, and deep belief networks have been efficiently applied to big data.

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Addressing the environmental and public health challenges requires engagement and collaboration among clinicians and public health researchers. Scientific discoveries and advances in this research field play a critical role in providing a rational basis for informed decision-making toward control and prevention of human diseases, especially the illnesses that are induced from environmental exposure to health hazards.

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