Tentative Outline

Title of the Thematic Issue: "Artificial Intelligence in Bioinformatics"

Sectional Editor: Dr. Yan Pei

Scope of the Thematic Issue:

Bioinformatics is an interdisciplinary field that analyzes and explores biological data. This field combines biology and information system. Artificial Intelligence (AI) has attracted great attention as it tries to replicate human intelligence. It has become common technology for analyzing and solving complex data and problems and encompasses sub-fields of machine learning and deep learning. AI and bioinformatics have a strong connection and AI gradually expanded the focus of biology in practical issues including protein folding and prediction, single-cell sequencing analysis, inference of genetics, molecular networks, and so on. Various AI algorithms have been developed and used in bioinformatics analyses, but there are still many sub-topics that need to be explored further.

This special issue aims to showcase some latest developments in artificial intelligence in bioinformatics that address key challenges and topics related to biotechnology.

Keywords: Artificial Intelligence, Bioinformatics, Machine learning, Deep learning, Biology, Protein Folding and Prediction

Sub-topics:

- Protein folding and prediction,
- DNA/RNA structure prediction,
- Single-cell sequencing analysis,
- Inference of genetic and molecular networks,
- Functional and comparative genomics,
- Gene expression analysis,
- Phylogenetics,
- Cancer genomics,
- Text mining in Bioinformatics,
- Disease detection, diagnosis, treatment planning, and prognosis,
- Knowledge-based medical decision systems,
- Knowledge representation and reasoning in medicine.
- Medical image based diagnosis

Schedule:

- Thematic issue submission deadline: **15 February 2024**

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