

Mohammad Amin Khodamoradi

Center of Technology and Systems (UNINOVA-CTS) and Associated Lab of Intelligent Systems (LASI)

2829-516, Caparica, Portugal

khodamoradi1992@gmail.com

+351926342953

01/08/2024

Editor-in-Chief

Journal of Knowledge and Information Systems

Dear Editor-in-Chief,

I am submitting the manuscript titled "SNF-CNN: Predicting Comprehensive Drug-Drug Interaction via Similarity Network Fusion and Convolutional Neural Networks" for consideration for publication in the Journal of Applied Network Knowledge and Information Systems.

Drug-drug interactions (DDIs) present a significant challenge in pharmacology, often resulting in unexpected and adverse reactions. Identifying potential DDIs before market entry is crucial for ensuring patient safety. Our research addresses this imperative by introducing the Similarity Network Fusion and Convolutional Neural Networks (SNF-CNN) model, a novel approach designed to predict both enhancive and depressive effects of drug pairs on a large scale.

Our study contributes to the field by predicting comprehensive DDIs and sheds light on the structural relationships within the DDI graph, providing valuable insights into the mechanisms underlying DDI occurrences. The SNF-CNN model exhibits robust performance in predicting depressive, enhancive, and unknown DDIs, surpassing three state-of-the-art methods according to our comparative analysis.

We believe that our work aligns with the scope and objectives of the Journal of Knowledge and Information Systems. Integrating computational methods, such as SNF-CNN, in predicting DDIs has far-reaching implications for pharmaceutical research and patient safety.

The key findings and contributions of our study include:

1. Comprehensive prediction of DDIs with a focus on enhancive and depressive effects.
2. Exploration of structural relationships within the DDI graph.
3. Demonstration of superior performance compared to state-of-the-art methods.

We trust that our research will be of interest to the readership of the Journal of Knowledge and Information Systems and contribute to the ongoing discourse in the field of drug-drug interactions. We look forward to the opportunity for our work to be peer-reviewed and, hopefully, published in your esteemed journal.

Thank you for considering our submission. We are confident that our research will make a valuable contribution to the scientific community.

Sincerely,

Mohammad Amin Khodamoradi

Center of Technology and Systems (UNINOVA-CTS) and Associated Lab of Intelligent Systems (LASI),
2829-516, Caparica, Portugal