

Abstract

This paper presents the Personal Health Management Knowledge Graph (PHMKG), a novelty developed to bring personalized insights on health data. Using data from wearable devices and mobile health applications, PHMKG organizes information into 622 nodes and 617 edges. It achieves 100% on schema and property completeness metrics ensuring the reliability of the data, while domain evaluations are validated by physician feedback reveals significant contribution by achieving average scores of 4.4 accuracy, 4.6 clarity, 4.8 completeness, and 4.4 contextualization. The result shows that PHMKG has the capability to provide highly accurate health insights and enhance LLM responses, extending its potential in advancing personalized health management.

Index Terms—Personal Health Management, Knowledge Graph, Wearable Devices, Mobile Health Applications, Completeness.