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Research Opportunities in Human Life Applications based on Artificial Intelligence, Machine Learning and Internet of Things using Graph Theory

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Abstract: This is review based paper which consist of different research opportunities in human life applications based on AI, ML & IoT using graph theory and also listed different software tools can help for same. The integration of Artificial Intelligence (AI), Machine Learning (ML) and the Internet of Things (IoT) has revolutionized various fields, offering promising solutions to human life applications. Graph theory, with its ability to model complex networks and relationships, plays a crucial role in optimizing and enhancing the functionality of AI, ML and IoT systems.

This paper explores emerging research opportunities in leveraging graph theory to address challenges in human life applications, focusing on areas such as healthcare, smart cities, transportation and environmental monitoring. In healthcare, graph-based models can optimize personalized treatment plans and improve patient monitoring by analyzing the interconnectedness of variables such as medical histories and real-time data from IoT-enabled devices. In smart cities, IoT devices generate vast amounts of data and graph theory can be used to model traffic, energy consumption and social interactions to create more efficient urban environments. Furthermore, in transportation, AI and ML algorithms can leverage graph structures to improve route planning, traffic management and fleet optimization.

The synergy of AI, ML, IoT, and graph theory offers new frontiers for research in these areas, with the potential to significantly improve the quality of human life. This paper emphasizes the need for interdisciplinary research to fully realize the potential of these technologies in real-world applications.

Keywords: Artificial Intelligence (AI), Graph Theory (GT), Human Life Applications, Internet of Things (IoT), Machine Learning (ML) & Software Tools

