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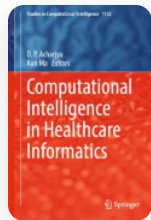Menu   Search   Cart

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Information Retrieval from Healthcare Information System

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Computational Intelligence in Healthcare Informatics

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Abstract

The term medical information retrieval refers to the collection of the dataset from different sources like hospitals, organizations, and healthcare research centers and its use for subsequent experiments to improve the treatments for complex medical conditions. Such information retrieval systems are designed to enhance the healthcare system, speed up disease diagnosis, and offer patients better alternatives. Today, the Internet has interconnected the entire world, making it incredibly simple for institutions conducting medical research to exchange test results and medical data. With the aid of gathered medical data, research might be carried out at subsequent levels of studies. Even countries can exchange medical data and combine performing medical research using the acquired data. This chapter attempts to examine medical information retrieval's significance, its techniques, and its utility in health care. The rapid development of Internet of Things (IoT) makes it possible to connect various smart devices over the Internet and provides more approaches for data interoperability for application needs. These IoT applications, which could be employed in information-intensive industries, are supported by more recent studies in the healthcare services sector. This work initially recommends a semantic data model to store and analyze IoT data. Further, a resource-based data access technique is designed to increase access to IoT data resources by collecting and using IoT data anywhere. Finally, an IoT-based emergency medical service solution is presented. In order to facilitate emergency medical services, flexibility is needed. The result shows that the resource-based strategy to accessing IoT data is effective in a context with distributed heterogeneous data for supporting quick, all-encompassing data access on a cloud and mobile computing platform. These IoT applications might be employed in information-intensive businesses like healthcare services. However, the variety of IoT items resulted in a problem with the

data in a situation where there is a dispersed heterogeneous dataset to enable quick and widespread data access on a cloud and mobile computing platform.

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References

1. Khan, A.A., Keung, J.W., Abdullah-Al-Wadud, M.: SPIIMM: toward a model for software process improvement implementation and management in global software development. IEEE Access **5**, 13720–13741 (2017)

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2. Humayun, M., Jhanjhi, N.Z.: Exploring the relationship between GSD, knowledge management, trust and collaboration. J. Eng. Sci. Technol. **14**(2), 820–843 (2019)

Google Scholar

3. Khan, S.U., Niazi, M., Ahmad, R.: Empirical investigation of success factors for offshore software development outsourcing vendors. IET Softw. **6**(1), 1–15 (2012)

Article Google Scholar

4. Ilyas, M., Khan, S.U.: An empirical investigation of the software integration success factors in GSD environment. In: Proceedings of the 15th IEEE International Conference on Software Engineering Research, Management and Applications, pp. 255−262 (2017)

Google Scholar

5. Akbar, R., Hassan, M.F., Safdar, S., Qureshi, M.A.: Client's perspective: realization as a new generation process for software project development and management. In: Proceedings of the Second International Conference on Communication Software and Networks, pp. 191−195 (2010)

Google Scholar

6. Hamid, M.A., Hafeez, Y., Hamid, B., Humayun, M., Jhanjhi, N.Z.: Towards an effective approach for architectural knowledge management considering global software development. Int. J. Grid Util. Comput. **11**(6), 780−791 (2020)

Article Google Scholar

7. Ramasubbu, N.: Governing software process improvementsin globally distributed product development. IEEE Trans. Softw. Eng. **40**(3), 235−250 (2013)

Article   Google Scholar

8. Chua, C.E.H., Lim, W.K., Soh, C., Sia, S.K.: Client strategies in vendor transition: a threat balancing perspective. J. Strat. Inf. Syst. **21**(1), 72–83 (2012)

Article   Google Scholar

9. De Farias, I., Júnior, N.L., De Moura, H.P.: An evaluation of motivational factors for distributed development teams. In: Proceedings of the IEEE/ACM Joint 5th International Workshop on Software Engineering for Systems-of-Systems, pp. 78–79 (2017)

Google Scholar

10. Simpao, A.F., Ahumada, L.M., Gálvez, J.A., Rehman, M.A.: A review of analytics and clinical informatics in health care. J. Med. Syst. **38**, 1–7 (2014)

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