

Smart Health Recommendation using Vitals

Dr. Kavita K Patil¹, Bharath J², Harsha L R²

Associate Professor, Department of Information Science and Engineering¹

B.E. Student, Department of Information Science and Engineering^{2,3}

Global Academy of Technology, Bangalore, Karnataka, India

Abstract: *The term "artificial intelligence" (AI) in healthcare means the application of machine-learning algorithms and software to mimic how humans think in the analysis, presentation, and comprehension of intricate medical and health care data, or to outperform human capabilities by offering novel approaches to illness diagnosis, treatment, and prevention. New customer wellbeing gadgets are being created to effortlessly screen various physiological boundaries on an ordinary premise. A considerable lot of these crucial sign estimation gadgets concentrated on in a clinical setting as now spread broadly all through the purchaser market. The purpose of this investigation was to examine the exactness and accuracy of pulse (HR), blood pressure (BP) and estimations by taking dataset through smartwatch. This paper provides information and methods employed in the health monitoring system utilizing K-means Clustering tasks such as monitoring blood pressure or ECG readings, Db scan for arranging unstructured data, SVM for Forecasting healthcare solutions and human health patterns and creating medical answers by combining devices, instruments, and cases. Neural Network for enhancing medical hardware, software, and instruments. Forecasting Healthcare Solutions for Utilizing machine learning for creating predictive healthcare solutions. Overall the paper gives detail knowledge about the technique used for a machine learning and artificial intelligence-based health recommendation system.*

Keywords: DbScan, K-means, Neural network, SVM

REFERENCES

- [1]. Philip J, Gandhimathi SK, Chalichalamala S, Karnam B, Chandanapalli SB, Chennupalli S. Smart Health Monitoring Using Deep Learning and Artificial Intelligence. *Revue d'Intelligence Artificielle*. 2023 Apr 1;37(2).
- [2]. Pandey, Honey, and S. Prabha. "Smart health monitoring system using IOT and machine learning techniques." In 2020 sixth international conference on bio signals, images, and instrumentation (ICBSII), pp. 1-4. IEEE, 2020.
- [3]. Hahnen, C., Freeman, C.G., Haldar, N., Hamati, J.N., Bard, D.M., Murali, V., Merli, G.J., Joseph, J.I. and van Helmond, N., 2020. Accuracy of vital signs measurements by a smartwatch and a portable health device: validation study. *JMIR mHealth and uHealth*, 8(2), p.e16811.
- [4]. Mohammadzadeh, N., Gholamzadeh, M., Saeedi, S. and Rezayi, S., 2020. The application of wearable smart sensors for monitoring the vital signs of patients in epidemics: a systematic literature review. *Journal of ambient intelligence and humanized computing*, pp.1-15.
- [5]. Ahmed, S. and Cho, S.H., 2023. Machine learning for healthcare radars: Recent progresses in human vital sign measurement and activity recognition. *IEEE Communications Surveys & Tutorials*.
- [6]. Mishra, A., McDonnell, W., Wang, J., Rodriguez, D. and Li, C., 2019. Intermodulation-based nonlinear smart health sensing of human vital signs and location. *IEEE access*, 7, pp.158284-158295.
- [7]. Fareedi, A.A., Ghazawneh, A. and Bergquist, M., 2022. Artificial Intelligence Agents and Knowledge Acquisition in Health Information System.
- [8]. Fareedi, A.A., Ghazawneh, A., Bergquist, M. and Ismail, M., 2023. Conversational Artificial Intelligence (AI) in the Healthcare Industry (No. 10849). EasyChair.
- [9]. Hisan, U.K. and Amri, M.M., 2022. Artificial Intelligence for Human Life: A Critical Opinion from Medical Bioethics Perspective–Part II. *Journal of Public Health Sciences*, 1(02), pp.112-130.

- [10]. Nasr, M., Islam, M.M., Shehata, S., Karray, F. and Quintana, Y., 2021. Smart healthcare in the age of AI: recent advances, challenges, and future prospects. *IEEE Access*, 9, pp.145248-145270.
- [11]. Yu, H. and Zhou, Z., 2021. Optimization of IoT-based artificial intelligence assisted telemedicine health analysis system. *IEEE access*, 9, pp.85034-85048.
- [12]. Kaieski, N., da Costa, C.A., da Rosa Righi, R., Lora, P.S. and Eskofier, B., 2020. Application of artificial intelligence methods in vital signs analysis of hospitalized patients: A systematic literature review. *Applied Soft Computing*, 96, p.106612.
- [13]. Liang, K., Chen, J., He, T., Wang, W., Singh, A.K., Rawat, D.B., Song, H. and Lyu, Z., 2024. Review of the Open Datasets for Contactless Sensing. *IEEE Internet of Things Journal*.
- [14]. Chen, Y., Huang, W., Jiang, X., Zhang, T., Wang, Y., Yan, B., Wang, Z., Chen, Q., Xing, Y., Li, D. and Long, G., 2023. UbiMeta: A Ubiquitous Operating System Model for Metaverse. *International Journal of Crowd Science*, 7(4), pp.180-189.