



# RETRACTED ARTICLE: Explainable context-aware IoT framework using human digital twin for healthcare

Tarun Vats<sup>1</sup> · Sunil K. Singh<sup>2</sup> · Sudhakar Kumar<sup>2</sup> · Brij B. Gupta<sup>3,4,5,6,7</sup> · Shabeg Singh Gill<sup>8</sup> · Varsha Arya<sup>9,10,11</sup> · Wadee Alhalabi<sup>12</sup>

Received: 15 April 2023 / Revised: 13 June 2023 / Accepted: 8 September 2023 /

Published online: 29 September 2023

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2023

The Publisher has retracted this article in agreement with the Editor-in-Chief. The article was submitted to be part of a guest-edited issue. An investigation by the publisher found a number of articles, including this one, with a number of concerns, including but not limited to compromised editorial handling and peer review process, inappropriate or irrelevant references or not being in scope of the journal or guest-edited issue. Based on the investigation's findings the publisher, in consultation with the Editor-in-Chief therefore no longer has confidence in the results and conclusions of this article. The authors disagree with this retraction.

The online version of this article contains the full text of the retracted article as Supplementary Information.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s11042-023-16922-5>.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.

---

Tarun Vats, Sunil K. Singh, Sudhakar Kumar and Brij B. Gupta contributed equally to this work.

---

✉ Tarun Vats  
tarunvats1807@gmail.com

✉ Sunil K. Singh  
sksingh@ccet.ac.in

✉ Sudhakar Kumar  
kum.sudhakars@gmail.com

✉ Brij B. Gupta  
bbgupta@asia.edu.tw

Extended author information available on the last page of the article

## Authors and Affiliations

Tarun Vats<sup>1</sup>  · Sunil K. Singh<sup>2</sup> · Sudhakar Kumar<sup>2</sup> · Brij B. Gupta<sup>3,4,5,6,7</sup> · Shabeg Singh Gill<sup>8</sup> · Varsha Arya<sup>9,10,11</sup> · Wadee Alhalabi<sup>12</sup>

Shabeg Singh Gill  
shabeg19388@iiitd.ac.in

Varsha Arya  
varshaarya21@gmail.com

Wadee Alhalabi  
wsalhalabi@kau.edu.sa

- <sup>1</sup> UG Scholar, Department of Computer Science and Engineering, Chandigarh College of Engineering and Technology, Sector 26, Chandigarh 160019, Chandigarh, India
- <sup>2</sup> Department of Computer Science and Engineering, Chandigarh College of Engineering and Technology, Sector 26, Chandigarh 160019, Chandigarh, India
- <sup>3</sup> Department of Computer Science and Information Engineering, Asia University, Taichung 413, Taiwan
- <sup>4</sup> Kyung Hee University, 26 Kyungheedaero, Seoul, Dongdaemun-gu 02447, Korea
- <sup>5</sup> Symbiosis Centre for Information Technology (SCIT), Symbiosis International University, Pune, India
- <sup>6</sup> Lebanese American University, Beirut 1102, Lebanon
- <sup>7</sup> Center for Interdisciplinary Research, University of Petroleum and Energy Studies (UPES), Dehradun, Uttarakhand, India
- <sup>8</sup> CSSS, Indraprastha Institute of Information Technology (IIIT), New Delhi, India
- <sup>9</sup> Department of Business Administration, Asia University, Taichung, Taiwan
- <sup>10</sup> Lebanese American University, Beirut 1102, Lebanon
- <sup>11</sup> Chandigarh University, Chandigarh, India
- <sup>12</sup> Department of Computer Science, Immersive Virtual Reality Research Group, King Abdulaziz University, Jeddah, Saudi Arabia