ISSN: 2320-5407

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Manuscript No.: **IJAR-53410** Date: 20-08-2025

Title: Intelligent Cybersecurity for IoMT Systems in Psychiatry: An AI-Driven Approach in Health 4.0

Recommendation:
Accept as it is .....YES.....
Accept after minor revision.....
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality			✓	
Techn. Quality			✓	
Clarity			✓	
Significance			✓	

Reviewer Name: Mr Bilal Mir

Reviewer's Comment for Publication.

The manuscript titled **"Intelligent Cybersecurity for IoMT Systems in Psychiatry: An AI-Driven Approach in Health 4.0"** addresses an emerging and highly relevant intersection between cybersecurity, artificial intelligence, and psychiatric care within the framework of Health 4.0.

The **abstract** clearly presents the motivation for the work: the rapid growth of IoMT technologies in healthcare and the associated vulnerabilities to cyberattacks, with a specific focus on psychiatry. The proposed model, ICAP-IoMT (Intelligent Cybersecurity Approach for Psychiatry in Internet of Medical Things), is introduced as a hybrid solution combining both network traffic data (BoT-IoT dataset) and psychiatric clinical data (PHQ-9, GAD-7, and related variables). The methodology is concisely described, emphasizing preprocessing, Random Forest-based training, and evaluation using standard performance metrics. Results show strong improvements over a benchmark model (SNN-IoMT), with higher Accuracy, Recall, Precision, and F1-score, particularly in reducing false negatives. The abstract also highlights security-by-design features—encryption, access control, and anonymization—demonstrating compliance with GDPR and reinforcing the ethical dimension of the work. The conclusion positions ICAP-

ISSN: 2320-5407
International Journal of Advanced Research
Publisher's Name: Jana Publication and Research LLP
www.journalijar.com

REVIEWER'S REPORT

IoMT as a robust, responsible, and domain-specific solution that advances Health 4.0 cybersecurity.

The keywords — Health 4.0, IoMT, cybersecurity, artificial intelligence, psychiatry — are well aligned with the study's scope.

The introduction situates the research within the ongoing digital transformation of healthcare systems. It explains the role of Health 4.0 in enabling personalized and continuous care, while identifying IoMT as a cornerstone of this transformation. The description of IoMT components (sensors, monitors, mobile applications, hospital information systems) effectively conveys its technical scope and medical relevance. The specific focus on psychiatry underscores the importance of protecting highly sensitive data and ensuring the integrity of connected medical devices in mental health contexts.

Overall, the manuscript is timely, innovative, and well-contextualized, combining technical rigor with ethical and regulatory considerations. It makes a meaningful contribution to the fields of cybersecurity, artificial intelligence, and digital health, particularly in safeguarding psychiatric IoMT infrastructures.