

Review Form2

Book Name:	Mathematics and Computer Science: Contemporary Developments
Manuscript Number:	Ms_BPR_2466
Title of the Manuscript:	Implementation of Low Cost IoT Based Intruder Detection System by Face Recognition using Machine Learning
Type of the Article	Book chapter

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimumof 3-4 sentences may be required for this part.	This manuscript is significant for the scientific community as it addresses a pressing need for affordable and efficient home security solutions using machine learning and IoT. The proposed system's ability to accurately detect intruders through real-time face recognition and send immediate alerts via email is a practical advancement that combines cutting-edge technology with real-world applications. The integration of Raspberry Pi, OpenCV, and machine learning algorithms demonstrates a robust approach to enhancing home security. The manuscript is particularly compelling due to its potential for wide-scale implementation, given its cost-effectiveness and the efficiency of the developed system.	
Is the title of the article suitable? (If not please suggest an alternative title)	Suggested Alternate Title: "Efficient Intrusion Detection System Leveraging IoT and Machine Learning-Based Face Recognition" OR ""A Cost-Effective IoT-Based Intruder Detection System Using Machine Learning for Face Recognition""	

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract in the provided document is clear and generally comprehensive, but there are some areas where it could be improved for clarity: Current Statement: "To identify the motion of a person who tries to enter the house will be detected by motion detection sensor." Suggestion: Rephrase to: "The system is designed to detect the motion of an intruder attempting to enter a house using a motion detection sensor." Current Statement: "The captured image is processed to detect face and recognize the image using Machine Learning algorithms and OpenCV." Suggestion: Include a brief mention of the specific machine learning techniques used, such as Haar-cascade classifiers or Local Binary Pattern (LBP). Current Statement: "Raspberry pi captured 28 images processed per second sends an email to the owner weather authorized or unauthorized." Suggestion: Clarify this to: "The Raspberry Pi processes 28 images per second, determining whether the detected individual is authorized or unauthorized. If unauthorized, an alert is sent to the owner via email." Current Statement: "An authentication can be verified by the user via the Internet of Things." Suggestion: Expand to: "The system integrates with the Internet of Things (IoT) to allow remote authentication by the user."	
Are subsections and structure of the manuscript appropriate?	Information related to the "Comparison with Existing Techniques" section in your thesis document. The section presents a detailed comparison between the proposed model and existing models for Intelligent Character Recognition (ICR) specifically targeting Kannada scripts. You can incorporate these points into the revision of your results section to strengthen the comparison with recent published works. This will highlight the advantages of your proposed method and its contribution to the field.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimumof 3-4 sentences may be required for this part.	The manuscript appears to be scientifically robust and technically sound. Firstly, it is grounded in established machine learning and computer vision techniques, such as the Haar-Cascade algorithm for face detection and the use of OpenCV for image processing, which are well-known and validated methods in the field. The implementation is described with a clear workflow, including the use of a PIR sensor for motion detection, which is a reliable approach for detecting intruders. Additionally, the manuscript provides detailed steps on system implementation, including hardware setup, image preprocessing, and training, which demonstrate a thorough and systematic approach to the problem. The results section includes case studies and analysis, further supporting the validity of the proposed system.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Suggested to rwefer and incorporate the reference papers after 2019.	

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Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	Based on the excerpt provided, the language quality of the article has some issues that could affect its suitability for scholarly communication. Here are a few points that highlight the concerns: There are several grammatical mistakes throughout the text. For example, phrases like "Raspberry pi captured 28 images processed per second sends an email to the owner weather authorized or unauthorized" should be revised for clarity and correctness. "Weather" should be "whether," and the sentence structure needs improvement. The language sometimes lacks the formal tone expected in scholarly writing. Phrases like "just locking the door may not be secure enough" could be rephrased to maintain a more academic tone. The text uses different terms interchangeably, such as "face detection" and "face recognition," without clear definitions or distinctions. Consistency in terminology is essential for scholarly communication. There are issues with spelling and punctuation, such as "face embeddings for the same face may be close in the vector space," where "face embeddings" could be better explained, and punctuation could be improved. To make the article more suitable for scholarly communication, it would benefit from thorough proofreading, correction of grammatical errors, consistent use of terminology, and a more formal tone throughout the text.	
Optional/General comments	Suggested to accept this article with minor revisions.	

PART 2:

	Reviewer's comment	Author's comment(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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