

1. Submission IRO Journal (27-7-2025)
2. Major Revision (14-8-2025)
3. 2nd Revision (20-8-2025)
4. Publication Accepted (10-9-2025)
5. Published (10-9-2025)

1. Submission

IRO Journals Submission <no-reply@paper-submission.link>
to sulaeman.santoso, iroiip.journal

Sun, Jul 27, 2025, 7:16 PM

Submission received

Journal	Journal of Innovative Image Processing (iroiip)
Title	Performance of Face Recognition Machine Learning Algorithms in Attendance Recording System with Limited Training Data
Article Type	Research
Submission Type	new
Abstract	Face recognition for attendance recording reduces times and eliminates several problems with fake attendance. The effectiveness of the face recognition algorithm is crucial to the attendance system. There are many face-recognition algorithms that have been researched in the case of attendance recordings. And these different algorithms resulted in varying degrees of success in face detection within said attendance recording. Differences in lighting, camera, room size, and numbers of students create a challenging environment for face detection. But one problem that is rarely discussed in face recognition research with machine learning is the problem of limited training data. In attendance recording scenarios, sometimes attaining large number of participant image data might not be feasible. This research compares the performance of three face-recognition machine learning algorithms (SVM, KNN, and Random Forest) with limited training data. It is then concluded that SVM with hyperparameter tuning resulted in the highest accuracy of 0.45. Possible causes and solutions for a better approach are then discussed and proposed
Keywords	Face Recognition, Attendance Recording, Computer Vision, Education technology.
Conflict of Interest	

Number of Authors	3
Author #1	<p>Erico Darmawan Handoyo Maranatha Christian University Maranatha Christian University Jl. Prof. drg. Soeria Soemantri No.65, Bandung, West Java, Indonesia Indonesia / erico_dh@it.maranatha.edu</p> <p>Bio: Erico Darmawan Handoyo is a lecturer at Maranatha Christian University faculty of Smart Technology and Engineering, Indonesia. His academic interests cover software engineering, user experience design, and mobile application development. He is particularly focused on the design and evaluation of technology solutions to enhance user engagement and learning outcomes.</p>
Author #2	<p>Sulaeman Santoso Maranatha Christian University Maranatha Christian University Jl. Prof. drg. Soeria Soemantri No.65, Bandung, West Java, Indonesia Indonesia / sulaeman.santoso@it.maranatha.edu</p> <p>Bio: Sulaeman Santoso is a lecturer at Maranatha Christian University Faculty of Smart Technology and Engineering, Indonesia. His research interests include game development, game based learning, virtual reality (VR), augmented reality (AR), and educational technology. He has been actively involved in developing immersive learning tools and exploring the integration of emerging technologies into educational environments</p>
Author #3	<p>Rossevine Artha Natasha Maranatha Christian University Maranatha Christian University Jl. Prof. drg. Soeria Soemantri No.65, Bandung, West Java, Indonesia Indonesia / Rossevine_an@it.maranatha.edu</p> <p>Bio: Rossevine Artha Nathasya is a lecturer in the Informatics Engineering program at the Faculty of Information Technology, Maranatha Christian University, Bandung. Her academic interests focus on integrating computational thinking into education, particularly through the use of programming, data structures, and algorithmic problem-solving. Her research mainly explored the application of deep learning and automatic speech recognition in learning environments.</p>
Corresponding Author	Sulaeman Santoso

2. Major Revision

Summarize this email

I IROIP JOURNAL <iroiip.journal@gmail.com>
to erico.dh, sulaeman.santoso, rossevina.an

Thu, Aug 7, 2025, 3:45 PM

Hi **Erico Darmawan Handoyo**,

Your manuscript **iroiip_1753618545** entitled “**Performance of Face Recognition Machine Learning Algorithms in Attendance Recording System with Limited Training Data**” has completed the review process.

Decision Status: Major revision

Please find the technical comments attached below.

All revised comments must be highlighted in yellow and the number of pages is limited to a maximum of 25.

Revise the article and resubmit within (22/08/ 2025) 15days from the receipt of this mail.

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JOURNAL OF INNOVATIVE IMAGE PROCESSING

Review Comments

Manuscript Id: iroiip_1753618545

Manuscript Title: Performance of Face Recognition Machine Learning Algorithms in Attendance Recording System with Limited Training Data

Author Name: Erico Darmawan Handoyo, Sulaeman Santoso, Rossevina Artha Nathasya
Maranatha Christian University, Bandung, Indonesia.

Decision: Major Revision

Review Comments 1

1. In the abstract section, some algorithms were chosen, so the authors have to provide a reason for choosing those particular algorithms and how they differ in handling data.

Decision: Major Revision

Review Comments 1

1. In the abstract section, some algorithms were chosen, so the authors have to provide a reason for choosing those particular algorithms and how they differ in handling data.
2. The logical flow between the problem statement, methodology, and conclusion in the abstract requires revision.
3. The introduction section requires more clarity on why limited data is a critical challenge. Highlight the unique contribution of the proposed work.
4. In the proposed work section, the Figure 4 explanation is not relevant to the research topic. It appears to be AI-generated; a revision is required.
5. Uneven image distribution in the bar graph, this causes class imbalance during training which may bias the learning algorithm.
6. The authors are suggested to include the necessary performance metric equation used for the validation of the research work.
7. In the conclusion section, using the SVM model, the attained performance accuracy is 45%, which is very low. The authors are suggested to provide a valid reason.

Review Comments 2

1. The abstract is descriptive but does not highlight numerical results or the best-performing model.
2. The introduction does not clearly explain the research gap or novelty compared to existing attendance systems.

3. The methodology section lacks a proper block diagram or system architecture for better understanding.
4. Dataset details, such as the number of subjects, images per subject, and preprocessing steps, are missing.
5. Comparative results between algorithms are given, but statistical validation or error analysis is not included.
6. Figures and tables need clearer captions and proper discussion in the main text.
7. The paper does not address real-world challenges such as lighting variation, occlusion, or mask usage.
8. The conclusion is too brief and does not reflect practical applications, limitations, or directions for future research.

Review Comments 3

1. What are the statistical confidence intervals and standard deviations associated with the reported accuracy values for each algorithm tested? how was data leakage prevented?
2. How do the PCA+SVM and DCT+DWT methods compare in computational efficiency and execution time during real-time attendance logging?
3. What measures were taken to avoid overfitting, particularly for models trained on fewer than 300 images?
4. How scalable is the proposed system if extended from 10–40 individuals to 1000+ students in a real classroom or university setup?
5. What are the memory and processing requirements for real-time deployment on edge devices or Raspberry Pi systems?
6. How were there any anomalies or inconsistencies observed in the testing phase that would challenge the assumptions made during model selection?

3. 2nd Revision

Sulaeman Santoso <sulaeman.santoso@gmail.com>
to rossevina.an, Erico ▾ Thu, Aug 7, 2025, 3:58 PM ☆ 😊 ↶ ⋮

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IROIIP JOURNAL Thu, Aug 14, 2025, 5:56 PM ☆

Dear Author, In our previous email, we forwarded you the revision request for the article entitled "Performance of Face Recognition Machine Learning Algorithms"

Sulaeman Santoso <sulaeman.santoso@gmail.com>
to IROIIP, erico.dh, sulaeman.santoso, rossevina.an ▾ Thu, Aug 14, 2025, 6:45 PM ☆ 😊 ↶ ⋮

Dear **IROIIP** Journal,

we are working on the journal and will prompt send you our revised manuscript.

Thank you

Re: IRO Journals Revisions > Inbox x ✕ 📎 📧

☰ Summarize this email

IROIIP JOURNAL <iroiip.journal@gmail.com>
to Sulaeman, erico.dh, rossevina.an ▾ Mon, Aug 18, 2025, 7:15 PM ☆ 😊 ↶ ⋮

Dear Author,

We have received your revisions. However, the following comments should be addressed for further process.

Comments:

1. Equations are incomplete or format error (ex. 1 and 2) check and update
2. Preprocessing, model training, recognition phases are vague
3. References are repeated twice (ex. 17 and 21)

Thank you

On Sat, Aug 16, 2025 at 8:07AM Sulaeman Santoso <sulaeman.santoso@it.maranatha.edu> wrote:
Dear **IROIIP** Journal,

Here is the revised document that we have prepared. Along with the document, we attached another file for reviewers, where we elaborate on the changes we made and the reasoning behind each review response. We would like to thank you for the opportunity given to us, and hopefully our revised document is sufficient for publishing.

IROIIP JOURNAL <iroiip.journal@gmail.com>
to Sulaeman, erico.dh, rossevina.an ▾ Wed, Aug 20, 2025, 4:34 PM ☆ 😊 ↶ ⋮

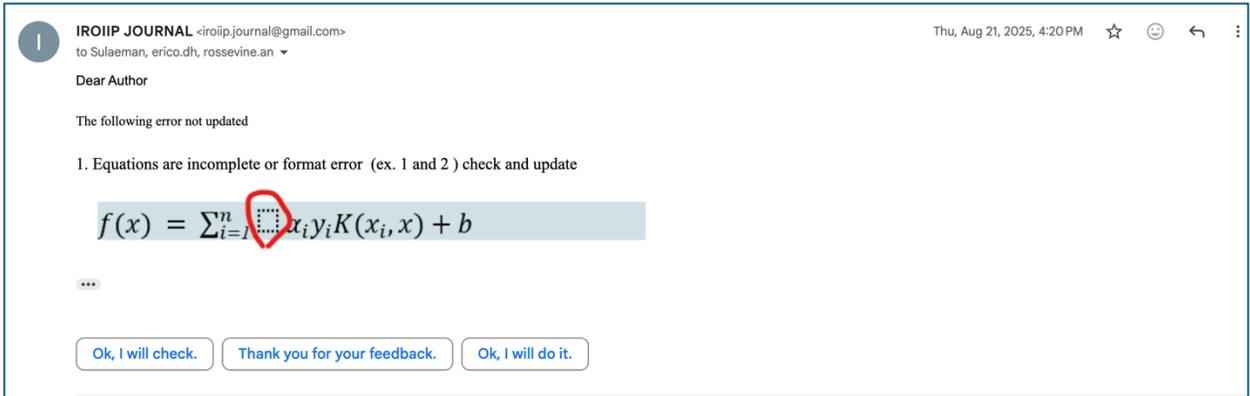
Dear Author

We have received your revisions. However, the following changes are required for further processing

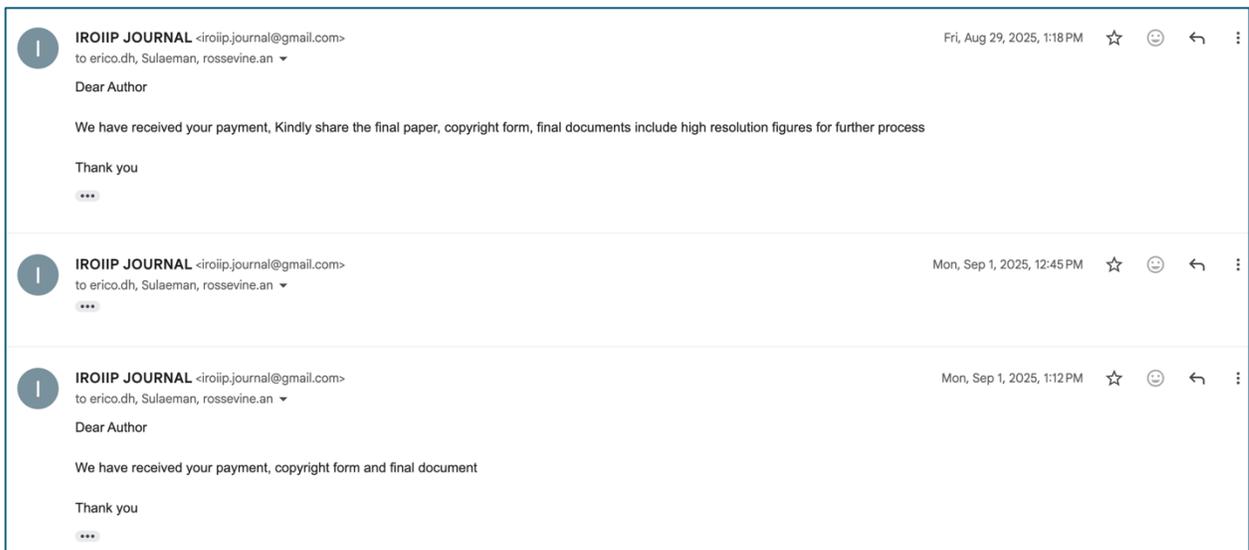
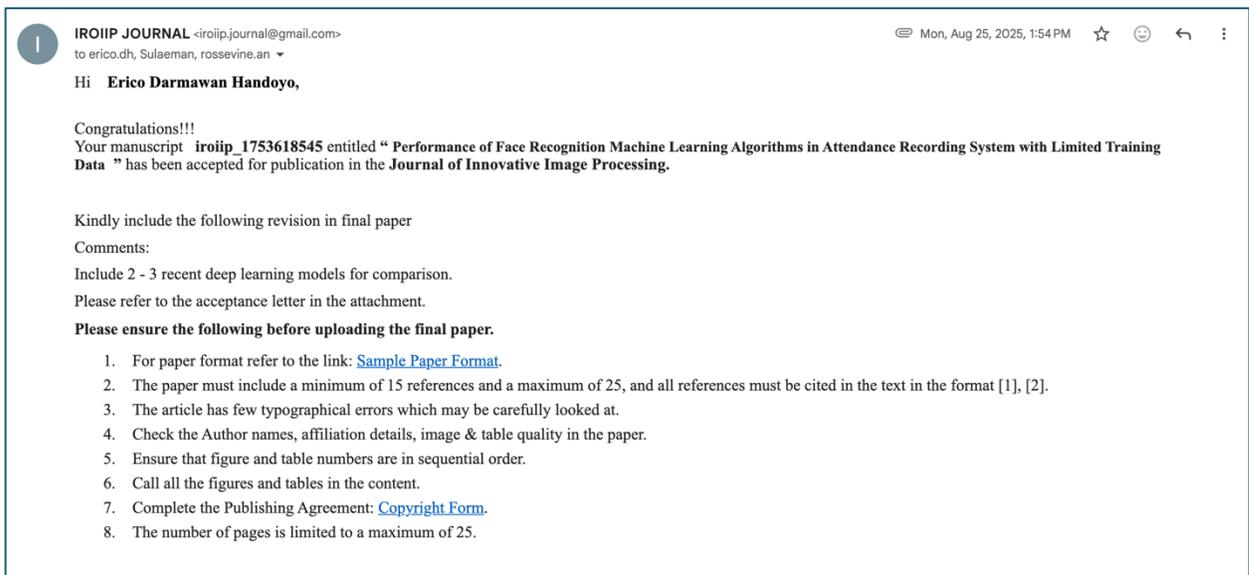
The manuscript presents a study on face recognition algorithms for attendance systems under limited training data, which is a practical and relevant application.

1. However, the paper needs more structured methodology, detailed dataset description, and stronger experimental analysis.
2. Figures, tables, and statistical validation must be improved for clarity.
3. The conclusion should also be expanded to reflect real-world usability.
4. The performance accuracy of the proposed model is very low. Clarify it.
5. The research flow could have been presented with more clarity in the abstract section.
6. Summarize the novel contribution of the proposed work in the introduction section.
7. Verify the image 4 description which is not relevant to the research.
8. Provide an explanation for uneven data distribution.

Thank you



4. Publication accepted



5. Published

I IROIIP JOURNAL <iroiip.journal@gmail.com> Tue, Sep 2, 2025, 2:01 PM ☆ ☺ ↶ ⋮
to erico.dh, Sulaeman, rossevive.an ▾

Dear Author,

We have corrected general grammatical errors in your manuscript.

The uncorrected proof copy of your manuscript is attached herewith.

Kindly perform a thorough check to verify and confirm the article title, author names & spacing, affiliations, Email IDs, figure numbers, captions, formulas and the complete contents of the article and please acknowledge with a confirmation as soon as possible if no further corrections are required, so we can complete the publication process and generate the DOI.

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 Xiroiip_175361854...

 Sulaeman Santoso <sulaeman.santoso@gmail.com> Tue, Sep 2, 2025, 4:21 PM ☆ ☺ ↶ ⋮
to IROIIP, erico.dh, Sulaeman, rossevive.an ▾

Dear **iroiip**

We hereby confirm the revised article and that no further corrections are required. We thank you once again for your swift response.

Best regards

Sulaeman Santoso

I IROIIP JOURNAL <iroiip.journal@gmail.com> Tue, Sep 2, 2025, 6:06 PM ☆ ☺ ↶ ⋮
to me, erico.dh, Sulaeman, rossevive.an ▾

Dear Author,

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Kindly perform a thorough check to verify and confirm the article title, author names & spacing, affiliations, Email IDs, figure numbers, captions, formulas and the complete contents of the article and please acknowledge with a confirmation as soon as possible if no further corrections are required, so we can complete the publication process and generate the DOI.

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to me, erico.dh, Sulaeman, rossevina.an ▾

Wed, Sep 10, 2025, 10:56 AM ☆ ☺ ↶ ⋮

Dear Author,

We are glad to inform you that your article is available online. The published article link is given below.

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