



# Importance of Data Sharing for the Validation of Interaction-based Emotion Recognition for UX Evaluation



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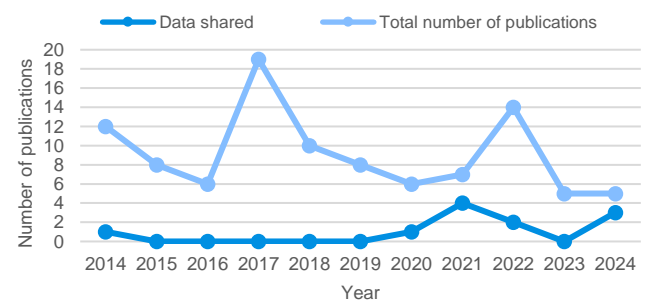
In the context of developing automated evaluation of User Experience (UX), it is common practice to rely on previous research provided by other researchers. For new and refined methodologies and more trustworthy results, it is essential to have access to data and implementations from previous research. Therefore, the verifiability of research results is a fundamental aspect of science. However, based on an evaluation of the data sharing practices in interaction-based emotion recognition research from 2014 to 2024, we conclude that recent research in this area lacks verifiability. Furthermore, we summarized the reasons authors provided to us for not sharing data from a publication.

## Approach

- We utilized 100 publications from 2014 to 2024 regarding their data sharing practices.
- We sent emails to the authors to request the data from 89 publications which did not share the data.
- Research Questions:
  1. How many of the analyzed publications have shared their data?
  2. Have data sharing practices changed over the last 10 years?
  3. Does a request for the data change the data sharing practices?
  4. What are the reasons for the authors not to share the data?

## Results

Figure 1: Data sharing of publications from 2014 to 2024



- Most publications do not share their data.
- Tendency of increased data sharing since 2020. 10 out of 11 datasets from publications that shared their data along with the publication were published between 2020 and 2024.

## Results

Table 1: Results of the evaluation of data sharing of 100 publications

|       | With Publication | After Request | Total |
|-------|------------------|---------------|-------|
| Yes   | 11               | 4             | 15    |
| No    | 89               | -             | 85    |
| Total | 100              | -             | 100   |

- We received responses for 28 of the 89 requested publications. We received data for 4 publications after the request.
- In total, we have data for 15 out of 100 publications following the request.

## Findings

- Problematic aspects of data sharing:
  - There is no specific format for sharing data.
  - The authors presented several reasons why the data cannot be shared.

Table 2: Reasons from authors for not sharing data

| Reason                                      | Number |
|---|--------|
| Data is too sensitive                       | 2      |
| Missing consent of participants             | 6      |
| Intellectual property reasons               | 1      |
| Change of position (no data access anymore) | 3      |
| Data is not available anymore               | 1      |

## Conclusion

The evaluation suggests that for interaction-based emotion recognition for UX evaluation, it is necessary to develop rules that have to be met by any publication to create a trustworthy basis for further research. Especially for sensitive user data, we need guidelines that help researchers fulfill all requirements to be allowed to share their data.

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