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|  | Contents lists available at ScienceDirect [Smart Health](https://www.sciencedirect.com/science/journal/23526483) journal homepage – [www.elsevier.com/locate/smhl](http://www.elsevier.com/locate/smhl) |  |

a, a, [[1]](#footnote-1)\* and b

a

b

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| ARTICLE INFO | ABSTRACT |
| **Keywords**:  list your keywords here | Please type your abstract here. A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. |

1. Organisation of the template

To use the *Smart Health* template you should first save it with the other templates. To do this, click on ‘New’ on the ‘File’ menu, choose the ‘General’ tab and paste the template there. To create a new document, select the template, choose the Create New Document option, and double-click on the template icon. Save the document.

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* 1. The toolbar and its menus

You can select the required styles from the top menus. The template chooses at that moment the most appropriate next style, e.g. after the style for authors’ names, you will automatically be in the affiliation style.

Using the ‘Insert Equation’ option, you can create equations in the Word® equation editor, or you can use the MathType™ equation editor if available. The ‘Insert Table’ and ‘Insert Figure’ option can be used to insert tables and figures in the desired position.

* 1. Entering text

There is no page limit.

1. The first page

Avoid using abbreviations in the title. Next, list all authors with their first names or initials and surnames (in that order). Indicate the author for correspondence using the ‘Tools’ menu. Present addresses can be inserted as Word® footnotes using the ‘Insert’ → ‘Footnote’ menu. After having listed all authors’ names, you should list their respective affiliations. Link authors and affiliations using superscript lower case letters from the ‘Author Footnote Symbols’ menu in the toolbar.

* 1. The Abstract

An Abstract is required for every paper; it should succinctly summarize the reason for the work, the main findings, and the conclusions of the study. The abstract should be no longer than 200 words. Do not include artwork, tables, elaborate equations or references to other parts of the paper or to the reference listing at the end. “Comment” papers are exceptions, where the commented paper should be referenced in full in the Abstract.

The reason is that the Abstract should be understandable in itself to be suitable for storage in textual information retrieval systems.

*Example of an abstract: A biometric sample collected in an uncontrolled outdoor environment varies significantly from its indoor version. Sample variations due to outdoor environmental conditions degrade the performance of biometric systems that otherwise perform well with indoor samples. In this study, we quantitatively evaluate such performance degradation in the case of a face and a voice biometric system. We also investigate how elementary combination schemes involving min-max or z normalization followed by the sum or max fusion rule can improve performance of the multi-biometric system. We use commercial biometric systems to collect face and voice samples from the same subjects in an environment that closely mimics the operational scenario. This realistic evaluation on a dataset of 116 subjects shows that the system performance degrades in outdoor scenarios but by multimodal score fusion the performance is enhanced by 20%. We also find that max rule fusion performs better than sum rule fusion on this dataset. More interestingly, we see that by using multiple samples of the same biometric modality, the performance of a unimodal system can approach that of a multimodal system.*

1. The main text

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Ensure that all tables, figures and schemes are cited in the text in numerical order. Trade names should have an initial capital letter, and trademark protection should be acknowledged in the standard fashion, using the superscripted characters for trademarks and registered trademarks respectively. All measurements and data should be given in SI units where possible, or other internationally accepted units. Abbreviations should be used consistently throughout the text, and all nonstandard abbreviations should be defined on first usage.

**Table 1. Summary of different works pertaining to face and speech fusion**

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| --- | --- | --- | --- | --- | --- |
| **Study** | **Algorithm used** | **DB**  **Size** | **Covariates of interest** | **Top individual**  **performance** | **Fusion**  **Performance** |
| **UK-BWG (Mansfield et al., 2001)** | **Face, voice:**  **Commercial** | **200** | **Time: 1-2 month separation (indoor)** | **TAR\* at 1% FAR#**  **Face: 96.5%**  **Voice: 96%** | **-** |
| **Brunelli**  **(Brunelli and Falavigna, 1995)** | **Face:**  **Hierarchical**  **correlation**  **Voice:**  **MFCC** | **87** | **Time: 3 sessions, time unknown (indoor)** | **Face:**  **TAR = 92% at**  **4.5% FAR**  **Voice:**  **TAR = 63% at**  **15% FAR** | **TAR =98.5%**  **at 0.5% FAR** |
| **Jain**  **(Jain et al., 1999)** | **Face:**  **Eigenface**  **Voice:**  **Cepstrum**  **Coeff. Based** | **50** | **Time: Two weeks (indoor)** | **TAR at 1% FAR**  **Face: 43%**  **Voice: 96.5%**  **Fingerprint: 96%** | **Face+Voice+**  **Fingerprint=**  **98.5%** |
| **Sanderson**  **(Sanderson and Paliwal, 2002)** | **Face: PCA**  **Voice: MFCC** | **43** | **Time: 3 sessions (indoor)**  **Noise addition to voice** | **Equal Error Rate**  **Face: 10%**  **Voice: 12.41%** | **Equal Error Rate 2.86%** |
| **Proposed study** | **Face, voice:**  **Commercial** | **116** | **Location: Indoor and Outdoor (same day)**  **Noise addition to eye co-ordinates** | **TARs at 1% FAR**  **Indoor-Outdoor**  **Face: 80%**  **Voice: 67.5%** | **TAR = 98%**  **at 1% FAR** |
| **\*TAR - True Acceptance Rate #FAR – False Acceptance Rate** | | | | | |

* 1. Tables, figures and schemes

Graphics and tables may be pasted directly into the template and positioned as they should appear in the final manuscript. Figures, Schemes, and Tables should be numbered. Structures in schemes should also be numbered consecutively, for ease of discussion and reference in the text. Figures should be maximum half a page size.

Artwork can be inserted using the ‘Insert’ options in the ‘Tools’ menu or by embedding the graph as an OLE object.[[2]](#footnote-2)† Make sure you *embed*, rather than *link* the object.

Depending on the amount of detail, you can choose to display artwork in one column (20 pica wide) or across the page (42 pica wide). Scale your artwork in your graphics program before incorporating it in your text. If the artwork turns out to be too large or too small, resize it again in your graphics program and re-import it. The text should not run along the sides of any figure. If it does, right-click the figure, choose ‘Format Object (/Figure)’, choose the ‘Wrapping’ tab and select ‘Top & bottom’. Artwork is normally linked to, and moves with, a paragraph it is linked to. A small anchor symbol should indicate the paragraph to which it is linked. If you do not see the anchor, choose from the ‘Tools’ menu, ‘Options…’, and click the ‘View’ tab. Tick the ‘Object anchors’ tick box. You can move the figure itself by dragging but you can also drag the anchor.

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<http://www.elsevier.com/locate/authorartwork>.

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| **Fig. 1.** Studio setup for capturing face images indoor. Three light sources L1, L2, L3 were used in conjunction with normal office lights. |

* 1. Lists

For tabular summations that do not deserve to be presented as a table, lists are often used. Lists may be either numbered or bulleted. Below you see examples of both.

1. The first entry in this list
2. The second entry
   1. A subentry
3. The last entry

* A bulleted list item
* Another one

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Conventionally, in mathematical equations, variables and anything that represents a value appear in italics. All equations should be numbered for easy referencing. The number should appear at the right margin.

You can type your equations and use the symbols in the Word® equation editor or in MathType™. In mathematical expressions in running text “/” should be used for division (not a horizontal line).

 (1)

In mathematical expressions in running text “/” should be used for division (not a horizontal line).

Acknowledgments

Acknowledgments should be inserted at the end of the paper, before the references, not as a footnote to the title. Use the unnumbered Acknowledgements Head style for the Acknowledgments heading.

References

Please ensure that every reference cited in the text is also present in the reference list (and vice versa).

*Reference style*   
*Text:* All citations in the text should refer to:   
1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;   
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Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically.

*Examples:*   
Hullermeier, E., & Rifqi, M. (2009). A fuzzy variant of the rand index for comparing clustering structures. In in Proc. IFSA/EUSFLAT Conf. (pp. 1294–1298). Newman, M. E. J., & Girvan, M. (2004). Finding and evaluating community structure in networks. Phys. Rev. E., 69, 026113.

Vehlow, C., Reinhardt, T., & Weiskopf, D. (2013). Visualizing fuzzy overlapping communities in networks. IEEE Trans. Vis. Comput. Graph., 19, 2486–2495.

Supplementary Material

Supplementary material that may be helpful in the review process should be prepared and provided as a separate electronic file. That file can then be transformed into PDF format and submitted along with the manuscript and graphic files to the appropriate editorial office.

1. \* Corresponding author. Tel.: +0-000-000-0000; fax: +0-000-000-0000; e-mail: [author@university.country](mailto:author@university.country)acronym [↑](#footnote-ref-1)
2. † OLE: Object Linking and Embedding; a program-integration technology you can use to share information between programs. All of the Office programs support OLE, so you can share information through linked and embedded objects. For instance you can import an Excel® graph into Word® by using ‘Paste special….’ on the ‘Edit’ menu or, essentially the same, using the option on the ‘Tables and figures’ menu. [↑](#footnote-ref-2)