# Article information:

Vein Biometric Recognition on a Smartphone | IEEE Journals & Magazine | IEEE Xplore  
<https://ieeexplore.ieee.org/document/9108276>

# Article summary:

1. A novel wrist vascular biometric recognition system has been designed, implemented, and tested on Xiaomi Pocophone F1 and Xiaomi Mi 8 devices for contactless real-time-processing wrist recognition on smartphone devices.

2. Two software algorithms, TGS-CVBR® and PIS-CVBR®, have been designed and applied to a database generation and the identification task, respectively.

3. The vein biometric recognition using SIFT®, SURF®, and ORB algorithms is promising and paves the way for contactless real-time-processing wrist recognition on smartphone devices.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article "Vein Biometric Recognition on a Smartphone" presents a novel approach to wrist vascular biometric recognition on smartphones. The article provides a detailed overview of the motivation, contributions, related work, and designed system. The authors highlight the importance of non-contact systems in biometric recognition and the exponential growth of biometric-based systems in daily life. They also discuss the current state-of-the-art in wrist VBR datasets and recognition techniques.

The article appears to be well-researched and informative, providing valuable insights into the development of vein biometric recognition on smartphones. However, there are some potential biases and limitations that should be considered.

One potential bias is that the study only focuses on two specific smartphone models from Xiaomi Inc., which may limit the generalizability of the findings to other devices. Additionally, while the authors mention other contactless biometric modalities such as facial, voice, iris, and gait, they do not provide a comprehensive overview of these modalities or their potential advantages/disadvantages compared to vein recognition.

Another limitation is that the study only focuses on one type of vein modality (wrist veins) and does not explore other types such as finger veins or palm veins. This may limit the applicability of the findings to other types of vein recognition systems.

Furthermore, while the authors claim that their results are promising and pave the way for contactless real-time-processing wrist recognition on smartphone devices, they do not provide any evidence or data to support this claim. It would have been helpful if they had included more information about their testing methodology and results.

Overall, while this article provides valuable insights into vein biometric recognition on smartphones, it is important to consider its potential biases and limitations when interpreting its findings.

# Topics for further research:

* Comparison of different contactless biometric modalities
* Advantages and disadvantages of facial recognition
* Voice recognition technology and its applications
* Iris recognition systems and their accuracy
* Palm vein recognition technology and its potential uses
* Finger vein recognition systems and their effectiveness

# Report location:

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