

PENERAPAN TEKNOLOGI *VOICE RECOGNITION* PADA *SMART HOME* DENGAN MENGGUNAKAN MFCC DAN *SUPERVISED LEARNING*

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ABSTRACT

The use of smart home technology is currently growing rapidly, especially in Indonesia. Moreover, one of the breakthroughs used is biometric recognition in the form of voice. However, this breakthrough has security risks, such as voice misidentification or speech misidentification. Various studies have combined various voice feature extraction methods and voice classification algorithms with MFCC and Supervised Learning methods. The results of this research show that manual testing using the Multiclass SVM model can achieve an accuracy level of 98.7 in confusion matrix testing. Meanwhile, when using the Backpropagation model, the level of accuracy obtained can reach 98.3%. Then, from the results of implementing the system into the prototype, it was found that the response time on the device to sound was an average of 319.95 ms when online connected to Firebase. Meanwhile, the response time in the system introduction process can reach an average of 1.31 ms.

Key words: MFCC, SVM, smart home, voice recognition, backpropagation