

Fuzzy arithmetic learning vector quantization (FALVQ) dengan fuzzy dimension reduction (FDR) untuk pengenalan wajah dengan variasi cahaya, sudut, dan ekspresi = Fuzzy arithmetic learning vector quantization (FALVQ) with fuzzy dimension reduction (FDR) for face recognition with light, angle, and expression variation

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Abstrak

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Sistem pengenalan wajah dapat dipergunakan untuk mengetahui identitas seseorang, dan sangat berguna pada proses pendaftaran atau akses masuk ke suatu gedung, maupun proses identifikasi seorang kriminal. Pada proses pengenalan wajah, banyak sekali dimensi yang ada, sehingga diperlukan waktu komputasi yang besar. Dengan dipergunakannya FDR maka dimensi dapat dikurangi, sedangkan FALVQ dipergunakan karena prosesnya yang cepat dan hasil yang baik karena termasuk dalam neural network yang terbimbing. Hasil terbaik FALVQ dengan FDR memberikan peningkatan rekognisi orang 1,47% dan recognisi orang sudut 4,95%. Hasil didapat dengan mempergunakan dimensi 50 dan alpha 8,9. Dengan melihat potensi berkurangnya waktu yang harus dilakukan untuk FALVQ 578,42 detik dan waktu tes FALVQ berkurang 53,91 detik membuat metode FALVQ dengan FDR menjadi lebih baik dalam face recognition.

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Face recognition system could be used to determine people identity and very useful for login process, acces to a building, ir to identified a criminal. Face recognition study consist of many dimension and it?s verry time consuming. With the use of FDR, we could minimize number of dimension, and with FALVQ will results in faster learning progress and better results due supervised learning in FALVQ. The best result for FALVQ with FDR makes face recogniton to rise 1,47% and angle-face recognition to rise 4,95%. The optimum dimension from three tested dimension reduction is 50 dimension with alpha 8,9. With the potential of decreased time in FALVQ until 578,42 seconds and decrease in FALVQ test until 53,91 seconds makes FALVQ with FDR better to implement in face recognition., Face recognition system could be used to determine people identity and very useful for login process, acces to a building, ir to identified a criminal. Face recognition study consist of many dimension and it's verry time consuming. With the use of FDR, we could minimize number of dimension, and with FALVQ will results in faster learning progress and better results due supervised learning in FALVQ. The best result for FALVQ with FDR makes face recogniton to rise 1,47% and angle-face recognition to rise 4,95%. The optimum dimension from three tested dimension reduction is 50 dimension with alpha 8,9. With the potential of decreased time in FALVQ until 578,42 seconds and decrease in FALVQ test until 53,91 seconds makes FALVQ with FDR better to implement in face recognition.]