# The Improvement of Face Recognition Using the Principal Component Analysis Algorithm

**Virtyt Lesha**
"Luarasi" University
Faculty of Information and Innovation Technology
Rruga "Panorama", Tirana, Albania
{virtyt.lesha}@gmail.com

**Kostandina Buzi**
"Luarasi" University
Faculty of Information and Innovation Technology
Rruga "Pjeter Budi", Tirana, Albania
{kostandina.buzi}@luarasi-univ.edu.al

**Jori Xama**
"Luarasi" University
Faculty of Information and Innovation Technology
Rruga "Arben Broci", Tirana, Albania
{jori.xama}@luarasi-univ.edu.al

***Abstract.*** *The face recognition is a process that poses multiple challenges with regard to image quality that will be recognized. Consequently, PCA algorithm is a technique that protects this element and provides an improved output.*
*In this research, we accessed a model of facial recognition approached to PCA algorithm simulated with Matlab which includes a database. The database, per se, consists of 80 images that will be tested with 8 external image for recognition.*
*The results generated by the model in mention, on which the algorithm is applied, are improved by 98.3% of facial recognition process in terms of image quality.*

**Keywords.** Matlab, quality, image

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## References

Aggarwal, C. C. (2018). Neural networks and deep learning: A textbook. Cham: Springer, 45-56

Datta, A. K., Datta, M., & Banerjee, P. K. (2016). Face detection and recognition: Theory and practice. Boca Raton: CRC Press/Taylor & Francis Group, 67-71

Géron, A. (2018). Hands-on machine learning with Scikit-Learn and TensorFlow: Concepts, tools, and techniques to build intelligent systems. Beijing: OReilly, 124-125

Hagan, M. T., Demuth, H. B., Beale, M. H., & Jesús, O. D. (2016). Neural network design. S. l.: S. n., 89-100

Li, S. Z., & Jain, A. K. (2011). Handbook of face recognition. London: Springer, 101-110