Osama A. Khashan, Abdullah M. Zin, Elankovan A. Sundararajan, 2014. Performance study of selective encryption in comparison to full encryption for still visual images. *Journal of Zhejiang University-SCIENCE C (Computers & Electronics)*, **15**(6):435-444. [doi:10.1631/jzus.C1300262]



# Performance study of selective encryption in comparison to full encryption for still visual images

**Key words:** Selective image encryption, Edge detection, Face detection

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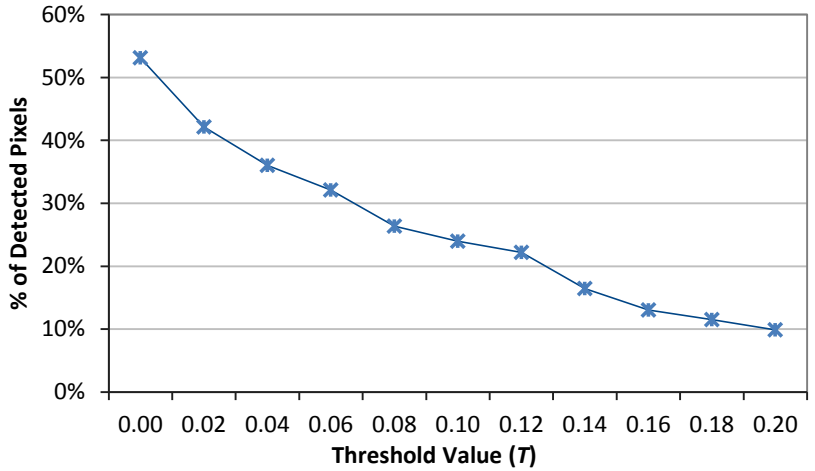
- The feasibility and performance of selective image encryption based on edge and face detection by using a symmetric cipher are studied and the results are compared with full encryption for still visual colour images.

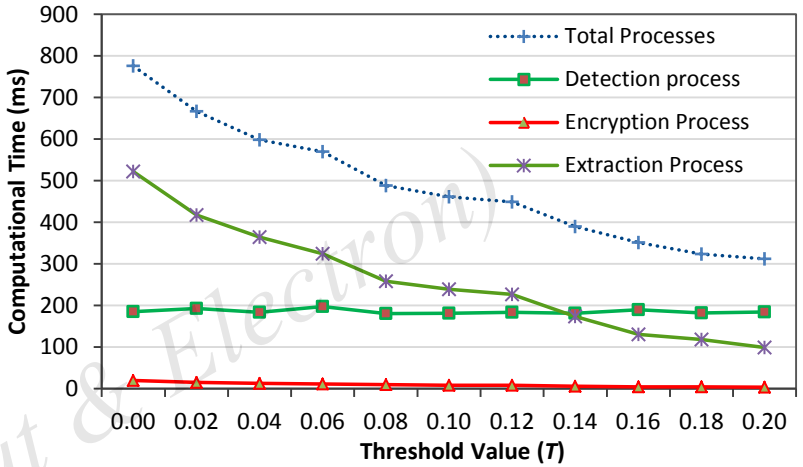
- The different processes carried out during edge and face image encryption were analysed, and the computational time involved in each process was calculated.

- The study reflects a significant reduction of computational time for selective encryption methods on still visual images compared to full encryption.

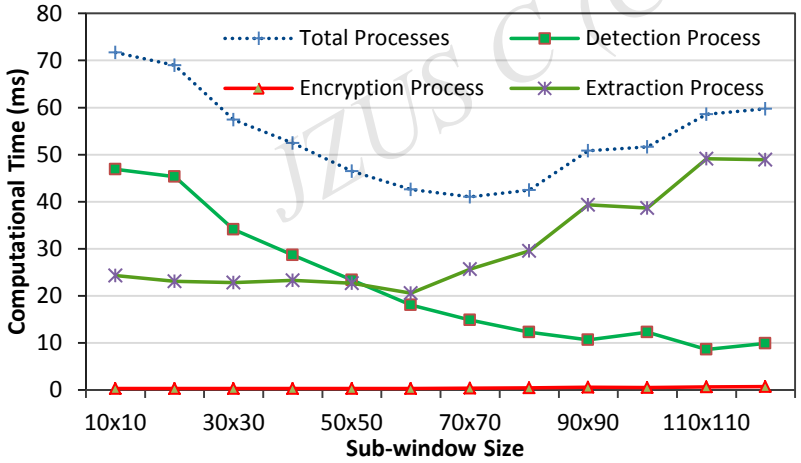
# Major results



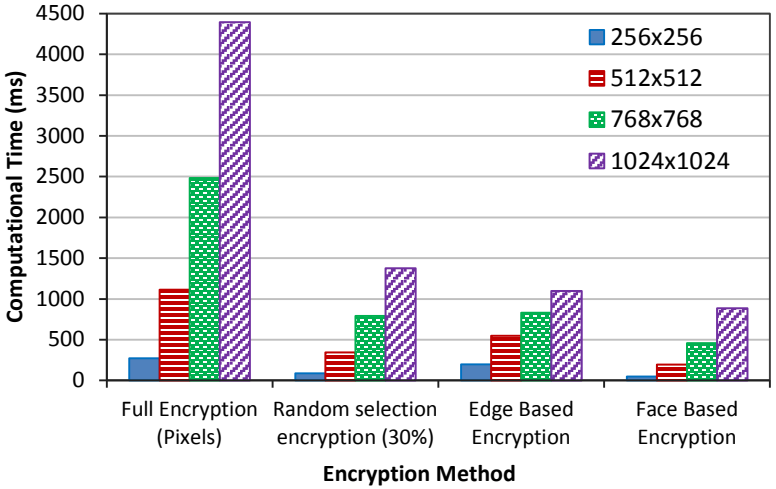

Correlation between changing *T* value and the percentage of the detected pixels for encrypting Lena of size 512×512




Computational times for the main processes executed during the edge-based encryption for Lena of size 512x512




Computational times for the main processes executed during the face-based encryption for Lena of size 256x256




Comparison of full visual Lena image encryption of various sizes vs. selective encryption methods