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Evolutionary approach to enhancement of medical ultrasound image processing

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It is considered the problem of improving ultrasound medical images processing using genetic algorithms. In this paper the algorithm is developed which allows to conduct a preliminary analysis of the image and the selection of appropriate processing methods. We performed an analysis to determine if there is an association between filters sequences and images texture parameters [1]. Ultrasound images of the human carotid artery at B-mode are used as the training and testing set. The set of filters and their optimal sequences are designed in previous work and used in current work. The results of this analysis will help to improve image quality and detection of pathologies.

- [1] T.Mahno Automated system for ultrasound images processing of carotid arteries based on evolutionary algorithm *Electrotechnic and computer systems*, 18(94), 2015, p.92 - 99.