Nano fibers are widely used in various industries, therefore knowing the morphology is important.

Thresholding is a simple but effective technique for image segmentation. The goal of image segmentation is to cluster pixels into salient image regions, i.e., regions corresponding to individual surfaces, objects, or natural parts of objects. In this paper, a novel method is proposed for performing image segmentation. The purpose of this paper proposes an imperial competitive algorithm with the objective function from K-means clustering algorithm for Nano fibers image thresholding. Then, algorithm used, with the algorithms such as: global threshold, local threshold, K-means clustering algorithm and FCM methods were compared. Finally, a powerful algorithm for image thresholding is found. The comparisons and experimental results show that the proposed algorithm is better than other methods, particularly global and local thresholding, K-means and even FCM.
Nano Fiber Images Thresholding based on Imperial Competitive Algorithm

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