

Panoramic Image Mosaicing Using Multi-Object Artificial Bee Colony Optimization Algorithm

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Abstract

Sometimes distance, necessary to take wide- angle photography , may not be available. In this case, the need may occur combining in accordance photographs taken piece by piece. Nowadays, a lot of camera manufacturer tried to solve the problem by using wide-angle lens (fish eye) [1-2]. But in order to change perspective it is almost impossible to get a good image. On the other hand, on the basis of images taken by a number of different angle (especially video images) may be required to obtain a wide-angle image. In this case, in accordance with a multi-image combined panoramic images are obtained. However, adaptation research for the realization of suitable attachment can take a very long time.

In this study, for solving the problem, artificial bee colony algorithm [3] is changed based on adopted multi-object search. According to this method, the right side of each image is determined as the food region and the left side represents a bee hive. The bees in each hive move to food regions of other images, divided into groups that have equal number of bees. Each bee has its own search on food regions. After one of the bees which from the first hive reached the highest value of the objective function, tries to pull the other bees from other regions. As a result of a particular iteration bees of every hive are kept together in a certain region. Thus, it can be determined that which image is positioned in which order and which location.

Keywords: *Multi-Object Optimization, Artificial Bee Colony Algorithm, Panoramic Image Mosaicing*

References

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