Abstract

In this paper a hybrid approach of BBO and BCO technique is used to find the shortest path from source to the target point. The input data is a red band satellite image. In this image there are no prior paths and we don't have any prior information about the area. So path planning is a key factor to find out the optimized path which includes terrain mapping, obstacle detection and avoidance, and goal seeking in cross-country using a hybrid approach of BBO and BCO techniques of Swarm Intelligence. In this hybrid approach Biogeography Based Optimization (BBO) is used for path extraction and obstacle detection from the red satellite image, morphological operation is used for smooth image and Bee Colony Optimization (BCO) algorithm is used for obstacle avoidance and shortest safe path from source to the target.

References

Shortest Path Finding in country using Hybrid approach of BBO and BCO

- MATLAB (7.0), Mathworks, http://www.mathworks.com

Index Terms

Computer Science Algorithms

Keywords

satellite image Path planning terrain mapping obstacle detection and avoidance and Swarm Intelligence