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FINAL YEAR PROJECT REPORT

EVOLUTIONARYALGORITHM FOR 3D OBJECT RECONSTRUCTION FROM IMAGES

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

By

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ABSTRACT

In the modern era of technology, artificial intelligence and computer graphics has played an important role in the field of search optimization. One of the majorly foremost solution that is used for reconstructing 3D models is the Evolutionary Algorithm. This algorithm provides possible number of outcomes for solving a problem with efficient results.

The Genetic Algorithm is a sub branch of the evolutionary algorithm which basically follows the biological concepts of evolution. It is an adaptive heuristic search algorithm that is based on the evolutionary ideas of natural selection and genetics. It provides maximum output for a huge problem in the search space. It represents an intelligent exploitation of a random search used to solve optimization problems.

This project is based on image processing techniques to extract the primitive shapes from the source image. The coding platform required to develop such a system are Java Development Kit (JDK) and Java Open Graphics Library(JOGL). A Graphical User Interface (GUI) would allow the user to input an image which will be processed for reconstructing the target image by generating models from the source image and comparing it with images of the target object, in which the acquisition position is known. The genetic algorithm would play the key role for achieving this goal. Finally the results showing that 3D Model can be formed using Genetic Algorithm as the input is in the 2D image form

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