AAVISHKAR

Inter-Collegiate / Institute / Department Research Convention

Category : Engineering and Technology **Level : UG**

Slot No : S95150

SUPERINTENDED GENETIC ALGORITHM

ABSTRACT

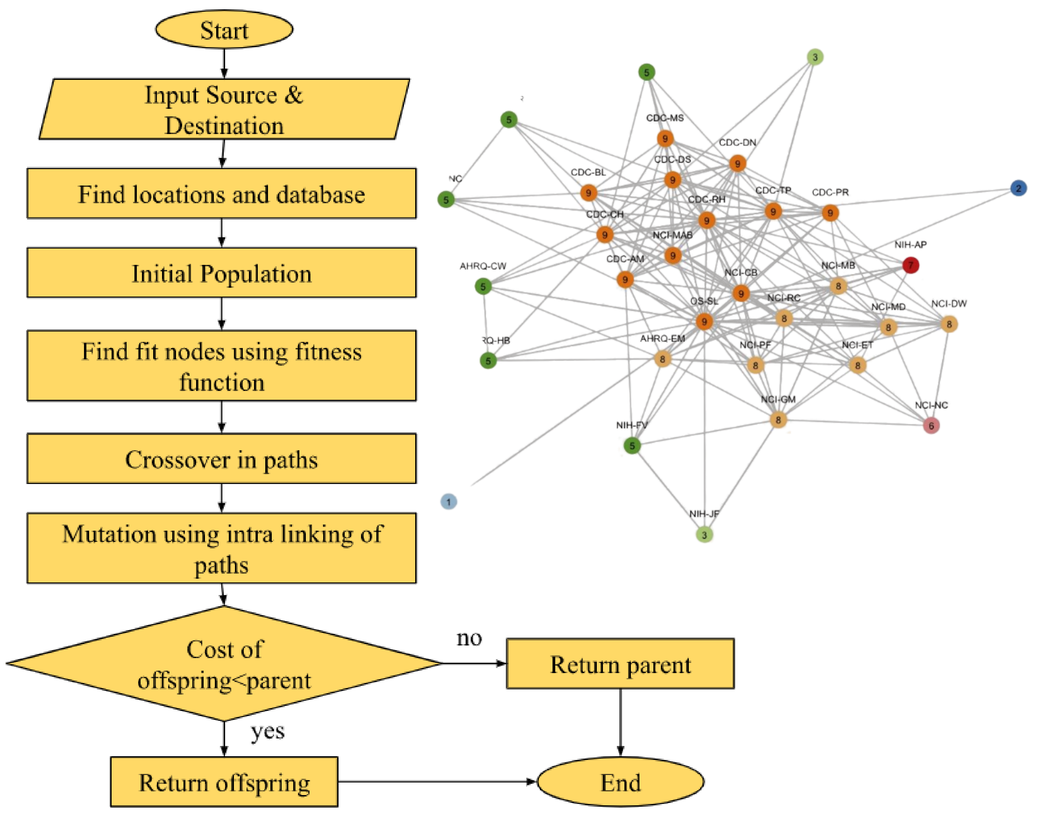
This system is not only used for road maps but also for other systems such as networking, unmanned aerial vehicle (UAV), communication, transportation, traveling salesperson problem, robotics, vehicle routing problem and many other.

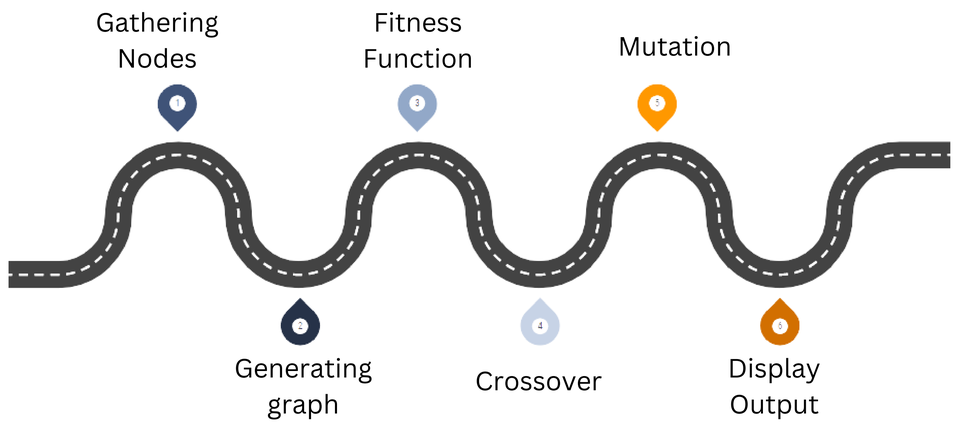
ROADMAP

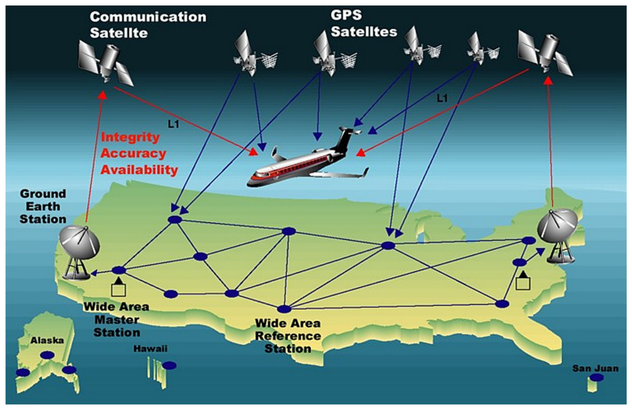
- We generated method for selection of nodes.
- We created a graph data structure to store the data.
- We designed the fitness function.
- Generated crossover.
- Customized Mutation function for best accuracy.
- Displayed the output generated.

TRANSPORTATION

We have divided data into blocks to form clusters. These clusters will help us in selecting minimum amount of data required to find the shortest path depending on the location of source & Destination. Which will be based on their coordinates.







GRAPH

The stored data is in the form of graph which utilizes less space and helps in finding the relevant information faster.
It is better than the adjacency matrix which is used by most of the people while implementing solutions.

INNOVATION

- First user enters input and the location are searched in the database.
- Initial population is generated.
- Genes are selected to form path iteratively from the initial population.
- Crossover and Mutation is performed to optimize the path.
- If no better path is found then the algorithm terminates.

UAV

Unmanned Arial Vehicle are used for surveillance, food delivery applications etc., in this modern world. These vehicles work on battery or fuels & there is no human to take decision if in case there is battery or fuel issue so in such cases there should be a mechanism to find the shortest possible way to land for re charging or re fueling.