

## **Term Project Sem-VII**

### **Ant Colony Optimization on TSP**

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The **ant colony optimization** algorithm (**ACO**) is a probabilistic technique for solving computational problems which can be reduced for finding optimum paths through graphs. Artificial Ants stand for multi-agent methods inspired by the behaviour of real ants. The pheromone-based communication of biological ants is often the predominant paradigm used. Combinations of Artificial Ants and local search algorithms have become a method of choice for numerous optimization tasks involving some sort of graph, e.g., vehicle routing and internet routing. This method can be used in the Traveling Salesman Problem. Artificial Ants will find not optimize but give near to optimize path.

#### **Project Requirement:**

Programming Language: C++  
Editor: Sublime Text 3  
Compiler: g++ (gcc version 8.3.0)

#### **Timeline:**

- Understanding the algorithm  
3rd - 4th Week of July
- Implementation of novel ACO program & Debugging  
August
- Optimization of code and Documentation of code  
1st - 2nd Week of September