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From: Arun Sharma, Rohan Das, Suman Paik, Sumit Mandal  
Midnapore College (Autonomous)

To: Dr Krishna Gopal Dhal (HOD)  
Assistant Professor Dept of computer science and application  
Midnapore college (Autonomous)

Subject: Project Progress Report.

Respected Sir,

We are very glad to inform you that we are just few steps away from completing our project, named “An effective solution to the Travelling Salesman Problem using Genetic Algorithm” under the guidance of Prof. Shovan Roy (Department of CSA Midnapore College).

**Progress :**

- A partial literature review on Genetic Algorithm & Travelling Salesman Problem is done.
- Gained a good understanding of the core concepts of Genetic Algorithm and TSP problem.
- Studied & implemented multiple algorithms which are used in Genetic Algorithm.
  - selection algorithms** – roulette wheel selection, tournament selection
  - crossover algorithms** – ordered crossover, cyclic crossover, order based crossover, partially mapped crossover, position based crossover
  - mutation algorithms** – inversion mutation, insertion mutation, exchange mutation, heuristic mutation.
- Implemented a model which gives a near optimal solution to a 2d symmetric TSP.
- Implemented a model for a 4d symmetric TSP.
- Tested our implemented model on benchmark TSP problems, and gained satisfactory results.

**Future perspective :**

- A comparison study of different algorithms in context of performance.