

**CS480/580 Introduction to Artificial Intelligence (Fall, 2018)**  
**Team Project**

Due: Friday, Dec. 7, 2018

**Packing Santa's Sleigh**

In CS480/CS580, you are required to work on your final project. A project team can consist of 1-5 students. The project is one of Kaggle's past challenge "Traveling Santa Problem."

<https://www.kaggle.com/c/traveling-santa-problem#description>

You are considering two tasks here:

Task 1: Ignore the requirement of two disjoint paths and just treat it as a common traveling salesman's problem. Find a tour yielding the minimum path cost.

Task 2. Now consider the requirement of two disjoint paths of the Kaggle requirement. Modify your algorithm and report two tours with disjoint paths.

You are required to write a team project report based on the results of your team project.

Here is an example of the layout of your project report paper.

**1. Problem Definition.**

Simply describe the "Traveling Santa Problem" problem.

**2. Methods**

Provide detailed description on your methods, implementation details (pseudo code, flow chart, etc.),

**3. Results**

Analyze the results you get, for example, how do methods/strategies lead to a better solution? What do you learn from this project? Use figures, charts, and tables to assist your analysis. You can also compare your results with the Kaggle winners.

**4. Conclusions**

Provide your conclusions. Do you achieve your goal? Why or why not? If there a way to do it better?

The python evaluation script can be provided soon.

**Delivery form**

The delivery form of this assignment should be a 5-page document in MS Words using IEEE double column format.