

The Delivery Man Lab Assignment

This is the **first** lab assignment in the AI course.

It should be performed in groups of 2-4 people.

The Lab Assignment has two parts:

1. Practical Implementation

You will compete in the Delivery Man game. You will be expected to **use the A* algorithm** to find optimal routes to work out what moves you should make in the game. Read the `runDeliveryMan` help documentation in the `DeliveryMan` package for more detail. A* will permit you to find the optimal route between two points given current traffic conditions. This is important, but not the only important matter in performing well in the game. You will have to think about what else is important and how you can perform your deliveries as well as possible.

You will provide:

- An R script with a function that can be passed to `runDeliveryMan`.

We will see how all groups perform, and your performance will be one factor influencing your grade.

2. Report (5-10 pages)

You will provide a report. It will include:

- A theoretical overview of the A* algorithm, including an explanation of optimality conditions.
- A discussion of the A* search algorithm you implemented, including a discussion of your heuristic, and whether you used a tree or graph search. Explain why you made the choices you made.
- A discussion of not A* strategies you made use of to improve your performance. Explain why you used these strategies.

Each of the dot points above will be worth 5 points, for a total report grade out of 20. Grade boundaries will be:

Grade	Points
3	10
4	14
5	17

The course assistant will be responsible for grading the assignment.