Propositions

attached to the thesis

Cost Allocation in Collaborative Transportation

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I

Given adequate computational resources, reductions in environmental and monetary costs can be achieved by merging smaller problem instances into larger problem instances.

(Chapters 2, 3 and 4)

II

Core allocations are often said not to be suitable for practice due to the exponential number of rationality constraints in the number of players. This hurdle can easily be overcome by considering row generation approaches.

(Chapter 2)

III

Collaborative transportation should not only be used to increase the efficiency of the transportation network, but also to serve additional requests.

(Chapter 3)

IV

Algorithmic contributions to a collaboration should be valued properly. This can be done by determining the cost or profit of a coalition based on the algorithms available to that coalition.

(Chapter 4)

V

If none of the companies in a collaboration have a good algorithm, all players will benefit from the inclusion of a consultant.

(Chapter 4)

VI

People should consume less, also for optimisation purposes: smaller problem instances are easier to solve.

VII

For the well-being of our future generations, we should stop minimising production and distribution costs and focus on maximising employee welfare as well as positive societal and environmental impact.

VIII

Companies allocate profit by means of salaries, bonuses and dividend to their employees and investors. Clearly, investors and upper management ensure that these allocations are not in the core. That is, they are allocated far more profit than they generate.

IX

Not providing sufficient individual attention to each and every student sets a bad precedent for those who are supposed to lead our future generations.

X

Universities, graduate schools and academic journals put too much emphasis on key performance indicators, such as the impact factor. In doing so, academics are incentivised in all the wrong ways.

XI

It is always a good idea to jointly optimise problems, e.g., when you go on a research visit to Montreal, visit a Formula 1 race and take a road trip throughout the United States.