



Hyperloop Network Design

With currently existing transport systems like cars or trains, it takes several hours to travel from Zurich to Berlin. This makes commuting between these cities – that is, to live in Berlin while working in Zurich – highly inconvenient.

To allow faster travelling for large distances, the idea of the *Hyperloop* was introduced in recent years. Hyperloop is a conceived transportation system in a vacuum tube, which allows higher speeds than trains or even planes due to reduced air drag. Further, costs and emissions are estimated to be lower, too.

With the realization of the Hyperloop concept, it may become normal for people to work several hundred kilometers away from the place they're living in. However, Hyperloop systems are still in a research phase and many challenges remain open, including that some research is based on arguably unrealistic assumptions.



In this project, we aim to compute the costs of building a Hyperloop transportation network with currently available technology and give first evaluations on its performance. More precisely, we expect the outcome of this project to be an algorithm generating optimized network routes, for example, to connect the major cities in Switzerland. Ultimately, our contribution may serve as a new foundation for research on Hyperloop networks in general.

In this project we offer a collaborative research task. In other words, we do not know how to solve these challenges perfectly ourselves, but we will together identify and solve interesting problems in the general field described above!

Requirements: To that end, creativity and programming skills are advantageous. Furthermore, the student(s) should be able to work independently on this topic and present new ideas and progress in weekly meetings!

Interested? Please contact us for more details!

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