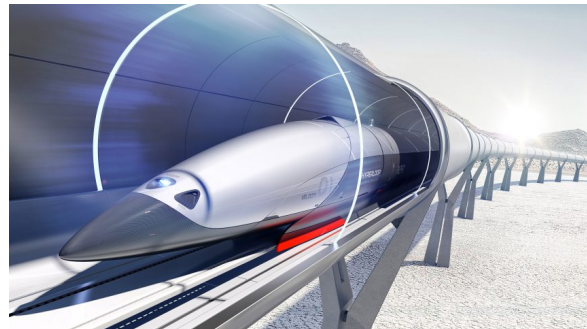




Hyperloop Pod Scheduling

Advances in transportation systems are broadening our “radius of life”¹ in the sense that people might be willing to live in a place that is more distant from their workplace or engage in activities that are further away than it can be observed nowadays. One of these advancements is the idea of a high-speed train system passing through low-pressure tubes, the *Hyperloop*.² Hyperloops promise the high speeds of planes while having short boarding times like trains and thus exhibit a high potential for the next leap in transportation technology.

Most hyperloop proposals include just a single tunnel. Scaling to entire networks connecting multiple cities, however, brings some additional challenges. One currently unaddressed problem is the efficient scheduling of pods. Not only the throughput and waiting times should be optimized, but pods might need to be redistributed if more passengers go in one direction than in the opposite.



The goal of this thesis is to devise a pod scheduling algorithm that maximizes throughput while minimizing passenger waiting times given a hyperloop network and a sequence of passengers arriving at different points in the network. Also, trade-offs between latency, throughput and cost should be analyzed.

Requirements: Creativity and programming skills are advantageous. The student(s) should be able to work independently on this topic!

Interested? Please contact us for more details!

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¹<https://techcrunch.com/2017/09/05/lilium-raises-90m/>

²<https://en.wikipedia.org/wiki/Hyperloop>