PhD position
in
Computer Science and Artificial Intelligence
at
Delft University of Technology

Topic: algorithms for scheduling under uncertainty, and making these work for the Dutch Railways (NS)

Are you interested in developing new algorithms, extending state-of-the-art AI techniques, and prepared to take-on a real-life problem involving trains?

Join us in a team that considers the operational scheduling of matching arriving train units at a yard to departures, and their routing, shunting, cleaning and maintenance and repair. Given the time tables of the involved railway companies, a plan has to be made for this rolling stock as well as for the people involved. As the number of train units grows, these plans will need to use all resources available (tracks, people), which makes the problem of finding feasible plans more and more difficult.

The main tasks for the PhD student are to work on algorithms and artificial intelligence techniques from the fields of constraint programming, mathematical optimisation, evolutionary algorithms and/or reinforcement learning to solve such scheduling problems, and to deepen our understanding of these techniques and how they can be successfully combined.

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