SOME INFO ON MASTER'S THESES

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Master's thesis topic

Master's thesis I supervise are mostly on (but not limited to):

- Robustness in scheduling:
  - a solution which does not significantly degrade in the face of disruptions is called robust
  - Local search with simulation
  - Deterministic robustness models for stochastic problem
  - MIP models
- Optimization algorithms for sustainability:
  - Local search
  - MIP
  - Simulation
- Optimization algorithms for public transportation:
  - Local search
  - MIP
  - Robustness
- Real-world simulation studies

Thesis examples

- Forecast-based optimal operation of islanded microgrids (Alliander)
- Optimizing VSC set points for embedded HVDC power systems (DNV-GL)

- Solving Stochastic Parallel Machine Scheduling using a Metaheuristic Approach with Efficient Robustness Estimation.
- Combining local search and heuristics for solving robust parallel machine scheduling
- Using column generation for the Time Dependent Vehicle Routing Problem with Soft Time Windows and Stochastic Travel Times

- Improving Call & Email Blending - a Call Center Simulation study (cc4skype)
- Automating Resilience Tuning (bol.com)

Tracks in Computing Science Master

- Programming Technology
  - Concepts of program design, Advanced functional programming, Compiler construction, Program semantics and verification, Technologies for learning.
- Algorithm Design and Analysis
  - Algorithms for decision support, Geometric algorithms, Algorithms and networks, Scheduling and timetabling, Crowd Simulation, Network science
- Advanced Planning and Decision Making
  - Algorithms for decision support, Probabilistic reasoning, Algorithms and networks, Evolutionary computing, Scheduling and timetabling
- Algorithmic Data Analysis
  - Big data, Data mining, Multimedia retrieval, Pattern recognition, Pattern set mining

Tracks in Computing Science Master: Why?

- Gives a focus to your program
- Builds up knowledge for a master's thesis

- *Choose a master's thesis topic in the area of your track(s)!*