

Volvo Group Trucks Technology

Master Thesis proposal:

Commanding of autonomous and electric vehicle fleet

In one of numerous projects related to automation, at Volvo GTT, A set of autonomous and electric vehicles transports goods in a sub urban environment.

At one location they are loaded with goods and charged. After this location the vehicles move, a couple of kilometers, to another location where the goods is unloaded. Finally they travel back empty to the loading/charging point and the mission is completed. After a completed mission, a vehicle receives commands from a control center. These commands inform on how to execute the next mission.

The objective with this thesis work is to define and optimize the control center commands to the vehicle fleet. Primary commands are vehicle speed and charging power. These commands will influence the number of goods items transported and operating costs. Examples of variables potentially influencing the setting of commands are progress, accumulated number of goods items and daily target of moved goods items. Progress is here a measure on how many of the daily operating hours that has been used.

The thesis work will include various fields such as economics, simulation and optimization. Personal interest in programming is seen as benefit. The work will be carried out at Volvo Group Trucks Technology, Vehicle Automation. The thesis is recommended for one or two students with programming profile and good mathematical skills. Personal interest in programming and artificial intelligence is seen as a benefit. Thesis start TBD.

If you find this proposal interesting, send your application via AB Volvo home page.
www.volvogroup.com/en-en/career

Contact persons:

Jonas Hellgren – Volvo GTT
jonas.hellgren@volvo.com

TBD