Thesis project at Scania is an excellent way of making contacts for your future working life. Many of our current employees started their career with a thesis project.

Background
Scania is one of the world’s leading manufacturer of trucks and buses for heavy transports, as well as industrial and marine engines. Transport services and logistics services make up an increasing part of our business, which guarantees Scania’s customers cost-efficient transport solutions and high availability. Over a million Scania vehicles are in active use, in over 100 countries. In the Connectivity section within Scania R&D, we develop new solutions for connected vehicles in our Internet of Things platform, as part of Scania’s increasing focus on communication, services and smart transport solutions. Advanced data analysis capabilities are a cornerstone enabler in this development.

Description
Scania has 300 thousand connected vehicles continuously sending in position information. From this data we can learn a lot about the trucks and the transport system. One important piece of the information puzzle is vehicle application. A visualization of vehicle application will be valuable for evaluating algorithms for determining vehicle application, finding yet unknown vehicle applications and for understanding of the concept. Understanding what our trucks do and correctly identifying vehicle application will help us create better services for our customers.

Examples of vehicle applications are Refuse Collector, Rescue Vehicle, Aircraft Catering Vehicle and Milk Collector Vehicle. We imagine that map visualizations could show vehicle movements in a way that portrays vehicle application, or another approach could be to project the data in new creative ways that illustrate vehicle application. Not only will you have access to data sets with billions of observations and big data computation platforms, but you will have access to the knowledgeable researchers and developers working at Connected Services.

Goal
Invent a method for visualizing the concept of vehicle application. For the purpose of meeting this goal we imagine multiple tracks that the thesis’ subject could take, for example:
- Explore visualization technologies such as Deck.gl, Mapbox GL, WebGL and Plot.ly for representing vehicles' applications.
- Explore how the user understand the concept of vehicle application using the visualization tool.
- Explore how AR/VR technology can be applied in the framework of big data visualization and the concept of vehicle application.
- Explore technologies for building an automated demonstration setup using for example Vagrant, Docker and Ansible.

Do you have another innovative idea that you would like to explore as your thesis' subject? Cool, we love a good idea and are open for suggestions!

Applicants
We are looking for 1-2 students who are studying a master’s program in Data Visualization, Media Technology, Computer Science, User Interface Design or similar. Applicants are expected to have a good understanding of information visualization theory and practice, including general techniques such as small multiples, linked views and drill down, and methods specifically applicable to high-dimensional data, vectors and matrices, time series, and geospatial data.

Time plan
The project is planned for 20 weeks and can be started any time during the fall of 2017 or spring 2018. Applicants will be assessed on a continuous basis until the position is filled.

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