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 manufacturers 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 the transport hubs.

A transport hub is a location with a specific set of characteristics. Examples of transport hubs are fuel stations, cargo terminals and saw mills. By identifying transport hubs and the relation between them we get a map of the transport system. Using this map we can discover logistic patterns, optimize transport flows and gain a deeper understanding of how the trucks are used. Ultimately this enables the future development of services to better conform with Scania’s customers’ needs in their daily operations.

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**
Explore the applicability of TensorFlow and deep learning for detection and classification of transport hubs. This will at least include:
- Design and extract features from a set of vehicle stops or positions
- Setup TensorFlow
- Design, train, test and evaluate neural networks

**Applicants**
We are looking for 1-2 students who are studying a master’s program in Machine Learning, Data Science, Computer Science or similar. We consider it meritorious if you have experience with TensorFlow.

Applicants are expected to have a good understanding of relevant machine learning and data mining methods. As part of your application, please describe methods you may use or a suggested approach you might take to solve this problem.

**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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**Contacts**
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**MASTER THESIS WORK - 30 CREDITS**

**DETECTING TRANSPORT HUBS USING TENSORFLOW**

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