



Master's Thesis at Carmenta in France

Carmenta has been supplying world-class software for mission-critical systems for more than 30 years – systems in which superior situational awareness is the key to success. We provide high performance software products, develop client-specific solutions and offer a wide range of services that help some of the world's most technologically-advanced customers optimise their operations using real-time geospatial information. Carmenta has offices in Gothenburg (HQ) and Stockholm, Sweden, and subsidiaries in France, Spain and Germany.

Carmenta is pleased to announce different openings for Master's Thesis in the field of Geographic Information Technology. See below different suggestions for your next Master's Thesis.

Automatic identification of Vector Data

We use geospatial Vector Data in our everyday lives to find restaurants, hotels or even navigate through traffic. Unfortunately, most geospatial Vector Data doesn't contain any visualisation, and each user must create a visualisation by manually browsing and analysing the data.

Examine how to identify the type of a vector object based on geometry characteristics and Meta-information.

This task is suitable for students interested in algorithms and machine learning.



Time dependent route optimisation

Vessels travelling on seas are affected more by weather conditions, like wind and wave heights, than traffic travelling on land. Sea traffic also typically takes place over greater distances which means the weather conditions can change significantly along the route over time.

Examine how to calculate routes for sea traffic that takes both vessel characteristics and time dependent weather information into account.

This task is suitable for students interested in algorithms and optimisations.

Automatic decision support from dynamic geographic data

C3I systems (Command Control Communication & Intelligence) present different kinds of data that operators evaluate and then base decisions on. The data is often geographical in nature like the positions of vessels, vehicles or persons.

Evaluate the kind of automatic analyses, and their correctness, that can be performed on a set of dynamic geographical data by taking the object movement into account.

This task is suitable for students interested in AI and machine learning.



Group Interaction on Large Multi-Touch Displays

Large, multi-touch displays are fairly commonplace these days. But there is a growing demand for tabletop, i.e. horizontally-mounted, touchscreens that an entire group of people can gather round and interact with, for example, when using a map application. However, most multi-touch interfaces are not designed for multiple simultaneous user interactions within the same application at the same time, without some degree of interference. In order to get around this problem, the most common solution is for users to simply take turns, so that only one user is interacting with the multi-touch table at any given time, making this an extremely inefficient process.

The purpose of this Master's Thesis is to explore potential solutions to this problem and methods that would allow multiple users to work simultaneously within a single map application running on a multi-touch table, and work more efficiently as a result.

This thesis work is suitable for pairs of students with strong programming skills and interest in collaborative User Experience design (UX).

Interested?

Please send your application and a copy of your CV to employment@carmenta.com.

