

# Master Thesis - Efficient rendering of text along arbitrary paths in a 3D environment

## About Vricon

Vricon serves the global professional geospatial market with world-leading 3D geodata, 3D visualization solutions, and 3D image processing solutions. We're on a mission to build the Globe in 3D—a revolution in GEOINT tradecraft—that offers decision makers and analysts the entire world in highly accurate, immersive 3D. Vricon's customers are varied and come from the telecommunications, emergency response, defense, and intelligence communities.

We are searching for the best and brightest to join a culture that is open and flexible, inclusive and positive. We offer opportunities for growth and the ability to work with talented people who make a real difference for our clients. The majority of our research and development work is done in our Linköping office in Sweden, which employs about 40 engineers who work on cutting-edge technology to produce unparalleled, global, precise 3D geospatial data and software.

## The Thesis

Investigate and evaluate different methods to effectively handle and render text that follows roads or other lines/curves. This could in practise be used to render the names of roads or countries along borders.

Topics to tackle in this thesis:

1. What data needs to be uploaded to the GPU and how can it be processed in order to keep a high visual fidelity of the text?
2. Each character needs to be correctly spaced relative to the previous character, no matter how the camera is observing the scene.
3. If the path is long the text may have to repeat several times but should never overlap.
4. If the camera is rotated the text has to be adjusted in order to always be readable.

## Qualifications

Master of Science student with interest in one or more of the following areas: programming in C/C++, 3D Visualization and Open GL.

## Contact

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