Master's Thesis Project: Point Cloud Data

The Geospatial Visualization, Semantic Modelling, and Acquisition Group at the VRVis research center in Vienna, Austria, tackles challenges related to the visualization and analysis of, and interaction with 3D geospatial data in a friendly and inspiring atmosphere. The ultimate goal is to build interactive systems integrating all relevant spatial and non-spatial information to support experts in planning, analyzing, and making informed decisions.

Currently, we are looking for support from a student (f/m/d) who would like to experience application oriented research at Austria's leading research center in the field of visual computing and/or aims to give her/his master's thesis an application-driven focus with the following topic:

Integrating Simulation Results into Point Cloud Data

Efficient, reliable railways play an important role in reducing carbon emissions and reaching climate goals. Large-scale simulations help schedule efficient maintenance measures and prolong the life of railway infrastructure.

The aim of this project is to visualize the results of such simulations in 3D point clouds. You will develop interactive visualizations within a dashboard combining point clouds, map data, and charts. We collaborate closely with industry partners who want to explore questions like the deterioration of track geometry over time in different simulation scenarios.

What your tasks will be

- Reading simulation results and segmentation data (track segmentation data is already available from another project)
- Registering point cloud positions with simulation points
- Visualizing simulation results (e.g., color coding, glyphs) in 3D

What you will bring to the team

- Interest in visualization and user interaction
- Solid programming skills
- We use the Aardvark Platform and F# , so experience with functional programming is recommended but not necessary

What we offer in return

- Very friendly and supportive work atmosphere
- Flexibility and well-equipped work-space
- Excellent professional support by our team
- Opportunity to access our network of university partners (e.g., for thesis supervision)
- Appropriate remuneration upon successful (thesis) completion

Applications are always welcome!

Please contact Rebecca Nowak to send in your application or to inquire about additional information.

We especially would like to encourage female students to apply!

Contact

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