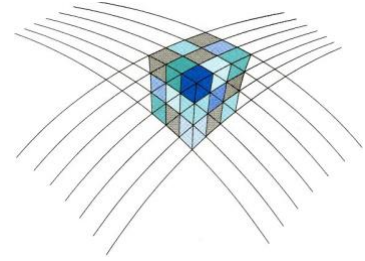


NCG



Netherlands Center for Geodesy and Geo-informatics

## Abstract submission for the NCG Symposium 2020

Abstract submission deadline: **14 September 2020**

Please submit your abstract EasyChair

<https://easychair.org/conferences/?conf=ncg2020>

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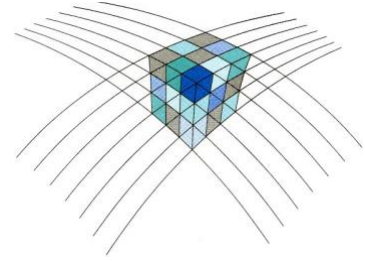
Presentation title: Deep Localization of Static Scans in Mobile Mapping Point Clouds

Demo: yes

Abstract (~100 words and optionally 1-2 figures):

Localization techniques help people understand their surrounding environment based on extracted position information in a geographic reference map. The development of global navigation satellite system (GNSS), light detection and ranging (LiDAR), computer vision (CV), etc., enables us to apply localization techniques for more specific tasks. Autonomous driving or robotics needs a reliable localization technique that both instantly retrieves an accurate positioning result and detailed information of the environment, which is challenging to realize in an urban environment. In our research, we propose a 3D point cloud localization framework in the urban environment to realize localization of terrestrial laser scanning (TLS) static scans in mobile laser scanning (MLS) point clouds. 3D point cloud localization consists of two steps: place recognition which aims to find MLS point clouds corresponding to TLS point clouds and pose refinement which accurately aligns TLS and corresponding MLS point clouds.

# NCG



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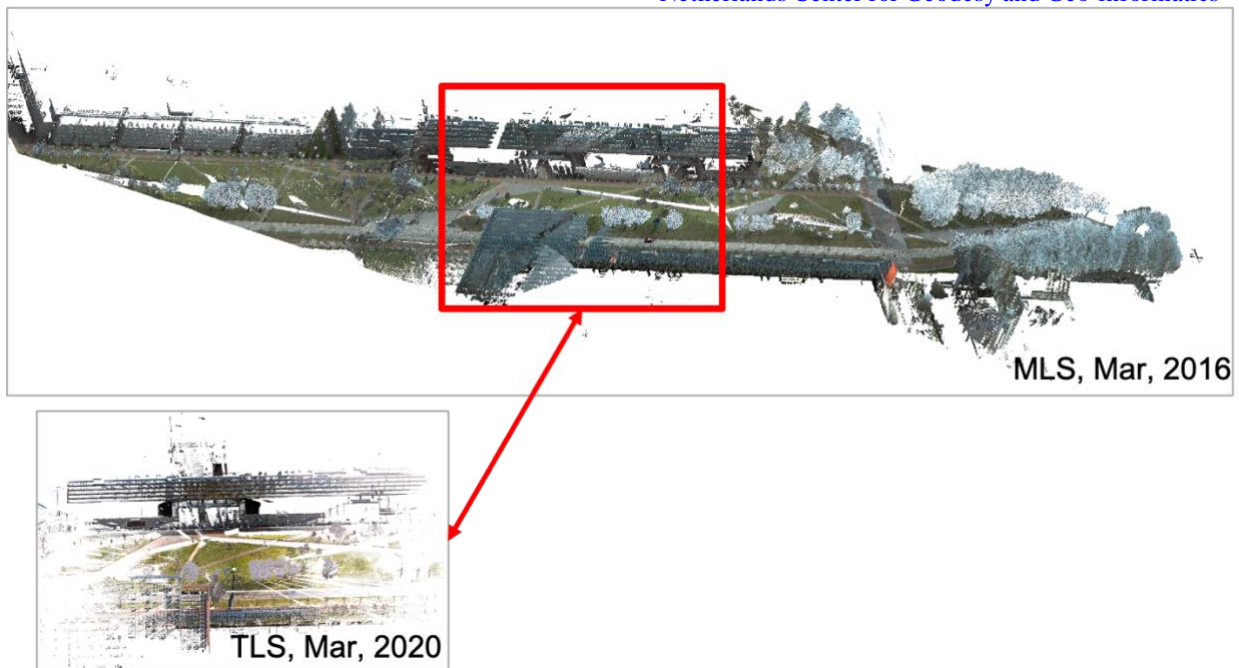


Figure 1 Place Recognition

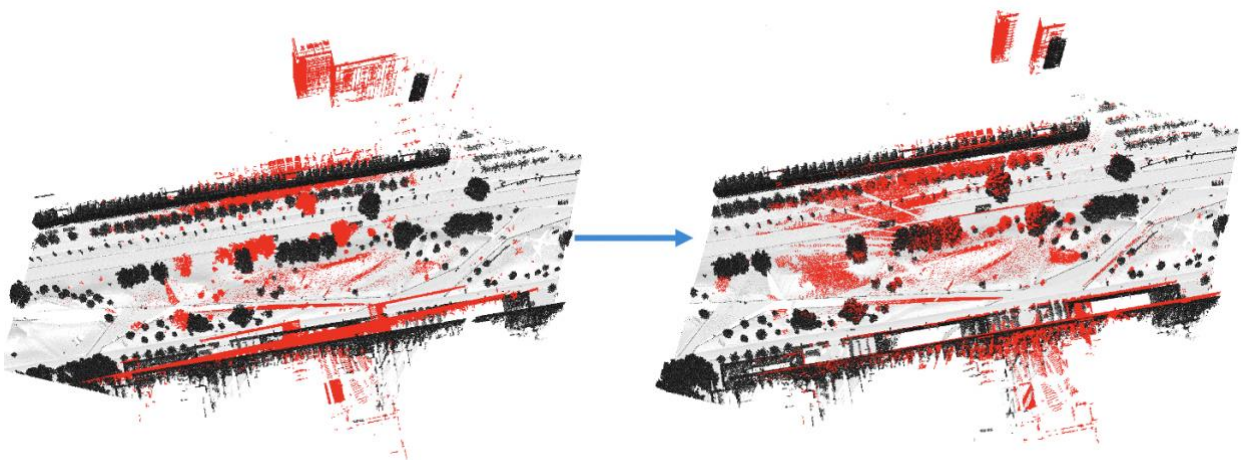


Figure 2 Pose Refinement