Alpine Deformation Monitoring based on Point Clouds

Background and state-of-the-art

- Landslide monitoring for damage prevention is highly-relevant topic
- Point clouds acquired by laser scanners contain dense geometric information about potential movements
- For analysis, point clouds are often processed using methods from image processing as hill shading, feature detection, etc.

Research questions

- What combination of data sources, such as laser scanners, aerial images, and others, can provide the highest level of accuracy?
- Which image processing and point cloud processing algorithms are best suited to reveal the movements in different areas over time?
- How can we accurately evaluate the accuracy of monitoring method?

Research methods

- Methods from point cloud processing as feature tracking, histograms
- Data Fusion using Kalman filtering and others

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