HIGH-ROAD

Automatic road assets inventory based on high-definition imagery data

Realization

HES-SO HEIA-FR:

Houda Chabbi
Jean Hennebert
Lucas Genoud
Yann Maret
Adrien Maillard

Keywords

- High-res image acquisition
- Artificial intelligence
- Computer vision
- Object detection
- Object segmentation
- Microservices

Planning

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Valorization

Automatic large road data processing to create an inventory and improve road assets management.

Partnership

Odytics (Industrial partner)

Funding

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Ground symbol markings and signaling symbols are essential for ensuring safe user traffic and reliable road infrastructure. The increasing number of users on the roads negatively impacts road assets, and weather conditions can hasten the deterioration of grounding marks and the formation of cracks. These objects must be closely monitored and systematically inventoried to prevent road damage and car accidents.

Odytics, the industrial partner of this project, is developing a road imagery system mounted on in-traffic vehicles capable of capturing high-definition images on Swiss highways. These images are currently used to manually identify road structures and defects which is a process that is accurate but extremely time-consuming. As the research partner, we develop deep learning algorithms to automate this task, detecting and classifying road assets and surface degradations efficiently. The outputs of our models are consolidated into an exploitable inventory that supports Odytics in maintaining safer and more reliable road networks.