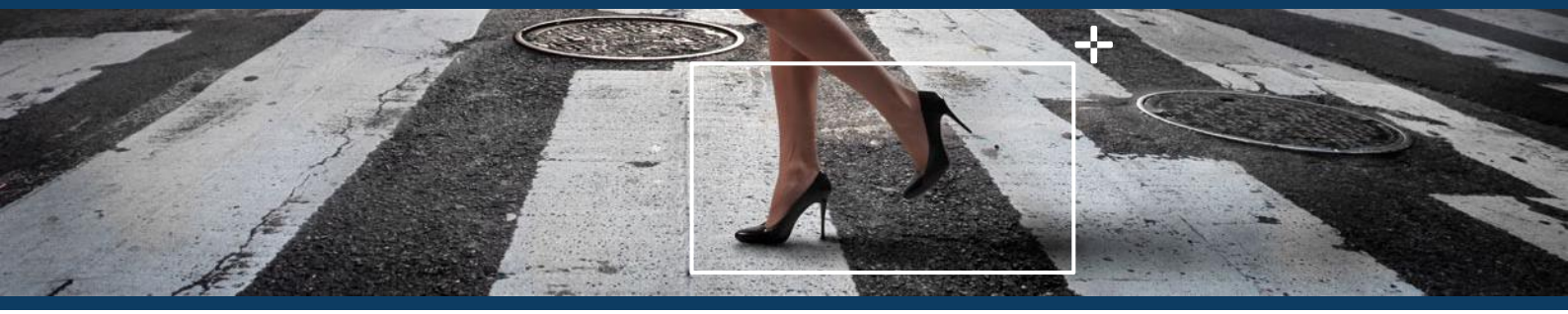
GINGER LEHMANN+PARTNER

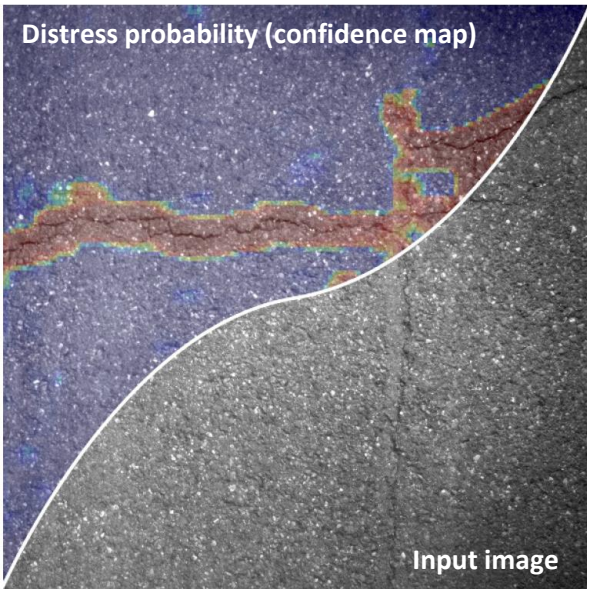
DATA COLLECTION | CONDITION SURVEY | CONSULTING | TECHNOLOGY

ON THE ROAD WITH THE RIGHT EQUIPMENT...

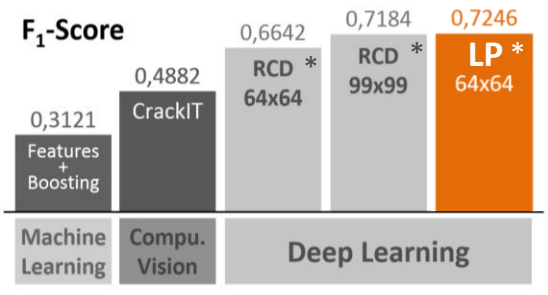


Automatic pavement distress detection

- State of the art deep learning technology
- Robustly detects cracks, potholes and patches
- Identify intact infrastructure
- Reduces valued manpower
- Swift, smooth & seamless workflow
- Cost effective solution



Accuracy of automatic pavement distress detection

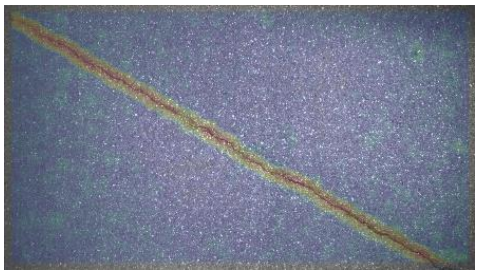


a published benchmark dataset

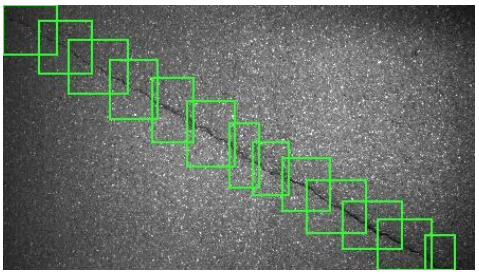
* for detailed information see backsite

1. HD Image

2. Confidence map



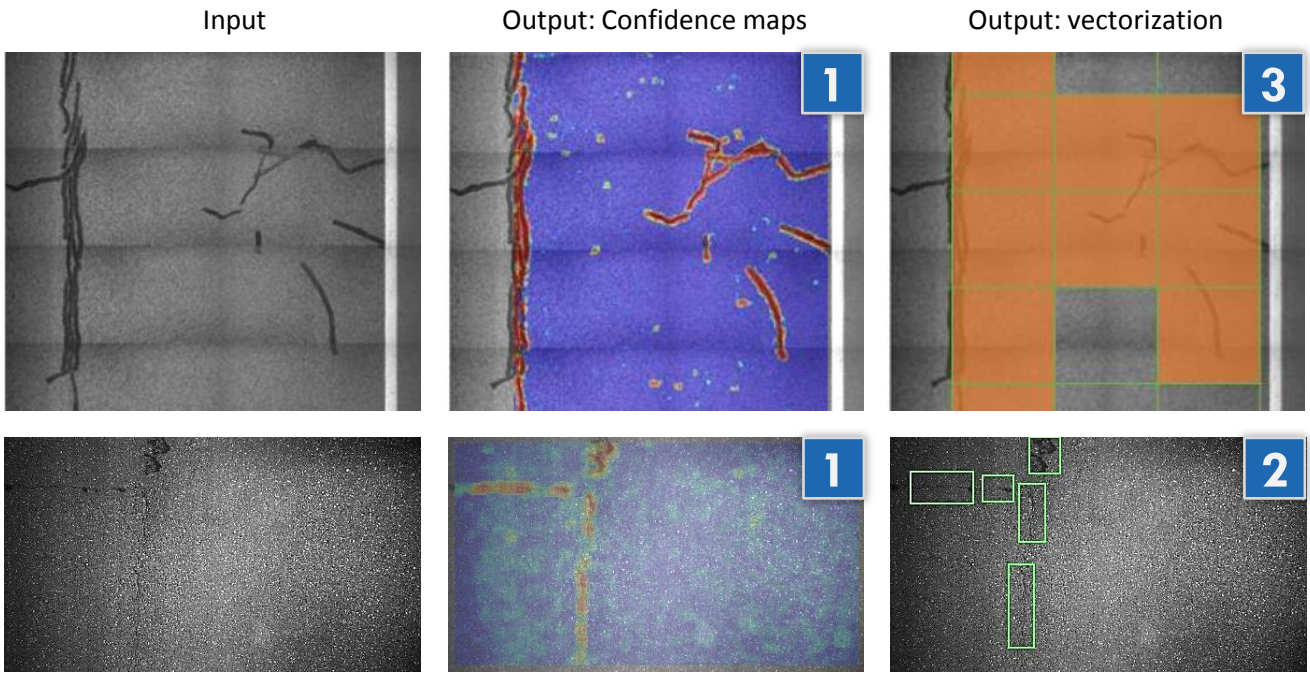
3. Bounding-box-creation



This work has received funding from the German Federal Ministry of Education and Research as part of the ASINVOS project under grant agreement no. 01IS15036.

Output options:

1. **Confidence maps**: image with the same size as the input image, where every single pixel stores a probability value of belonging to a distress class or to an intact road surface.
2. **Axis-aligned bounding boxes**: the results are saved as xml & other open formats.
3. **Distress-grid:** the results are saved as xml files as defined by the Road and Transportation Research Association (FGSV) and the German Federal Highway Research Institute (BASt). This output option requires input images that comply with the FGSV and BASt regulations.



Self learning system / Deep learning algorithm

"… and it doesn't stop here!

Other distress features can be detected too."

Scan:
How to Get Pavement Distress Detection Ready for Deep Learning? A Systematic Approach:

* for more information see:
Eisenbach, M., Stricker, R., Seichter, D., Amende, K., Debes, K., Sesselmann, M., Ebersbach, D., Stoeckert, U. & H.-M. Gross (2017): How to Get Pavement Distress Detection Ready for Deep Learning? A Systematic Approach, Int. Joint Conf. on Neural Networks (IJCNN), Anchorage, USA, pp. 2039-2047.
Zhang, L., Yang, F., Zhang, Y. D. & Y. J. Zhu (2016): Road crack detection using deep convolutional neural network, in Int. Conf. on Image Processing (ICIP). IEEE, pp. 3708–3712.

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