

Computer Vision and Machine Learning

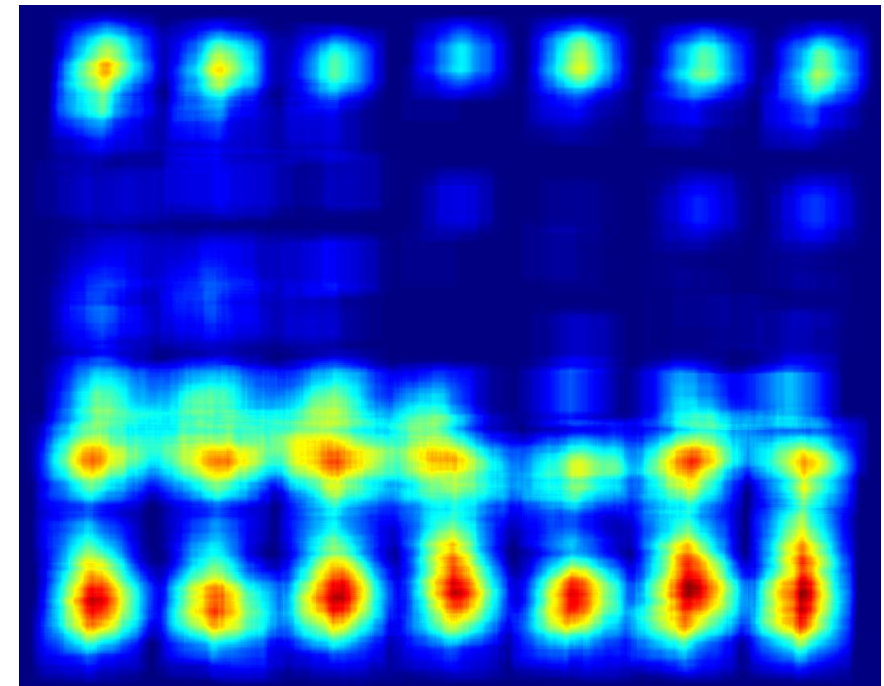
The project portfolio
[linkedin.com/in/ryabokon/](https://www.linkedin.com/in/ryabokon/)

Anomalies detection

Quality control
for warehouses



Detecting the regular structures and inconsistencies/outliers on the image of the pallet from production line. Decision making for quality control team helping to assure that pallet has same type of boxes and fully composed according to required dimensions. Technologies: Python, OpenCV, scipy, skimage.



A side profile view of a red Porsche 911 Carrera 2-door coupe. The car is shown from the side, facing right, against a plain white background. It features a sleek, aerodynamic design with a low roofline, large windows, and distinctive multi-spoke alloy wheels. The rear of the car shows the classic 911 silhouette with a prominent rear spoiler and a small rear window. The front end is partially visible, showing the headlights and the front bumper. The overall appearance is that of a well-maintained, classic sports car.

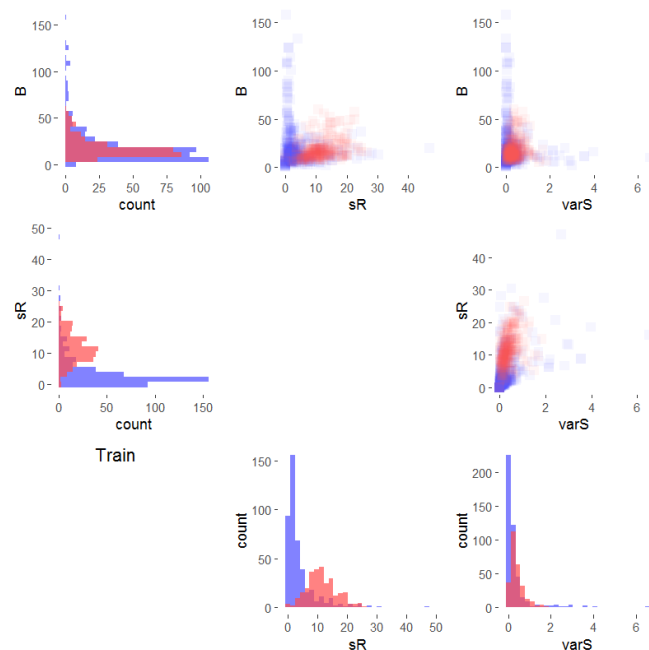
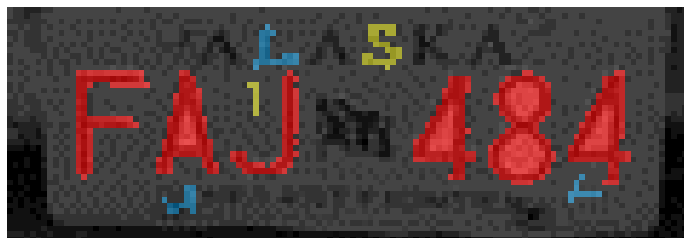


Technologies: Python, CNN, TensorFlow, Keras, VGG, ImageNet, CUDA.



LPR

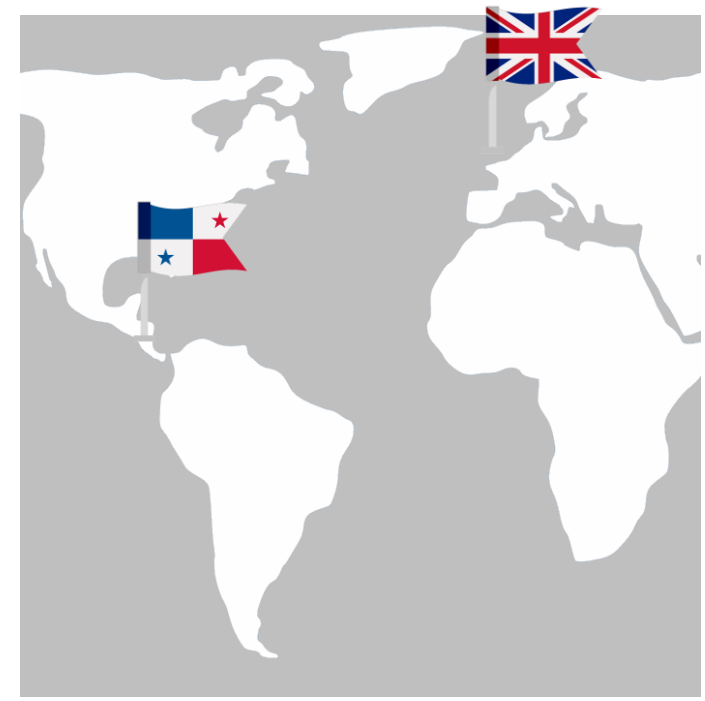
License plate Recognition



End-to-end *detection*->
segmentation->*recognition*->
semantics approach for
recognition of the license
plates.

Technologies: Python,
OpenCV, C++, proprietary ML
libraries

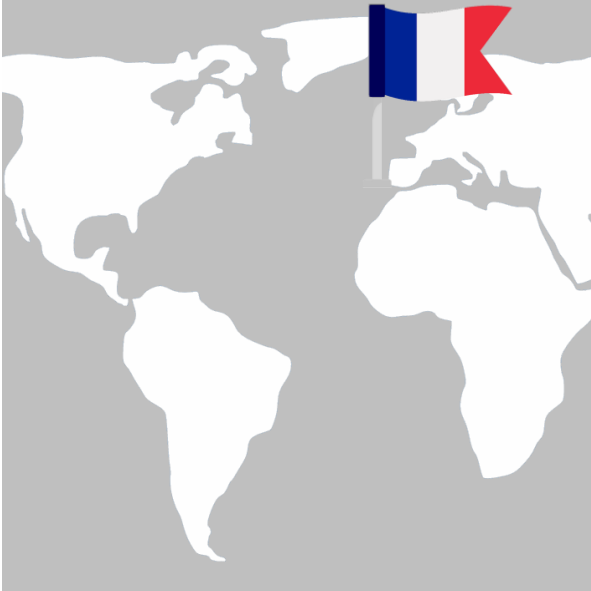
On-line loans



Decision making for online lending system serving 100+ applications a day. Optimizing the portfolio's KPIs by reducing the default rate as well as increasing the number of returning solvent customers. Implementing the enhanced affordability verifications and automated credit risk decisioning based on application data, social data, bureau data and multiple other data from heterogenous sources.

Technologies: R, Python, multiple ML frameworks.

Digital Identity

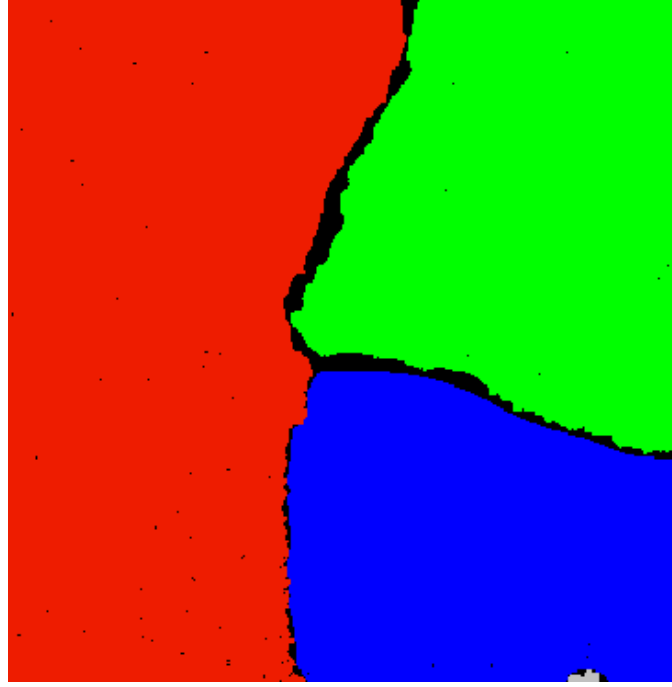
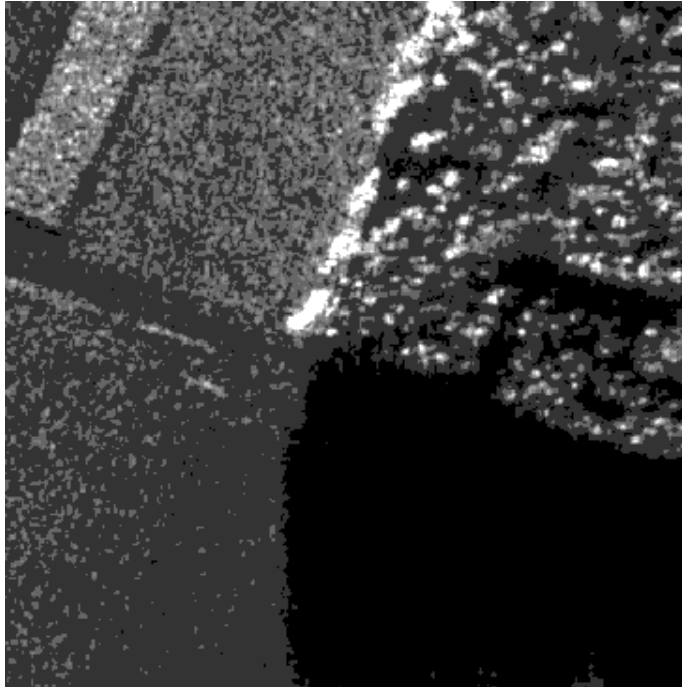
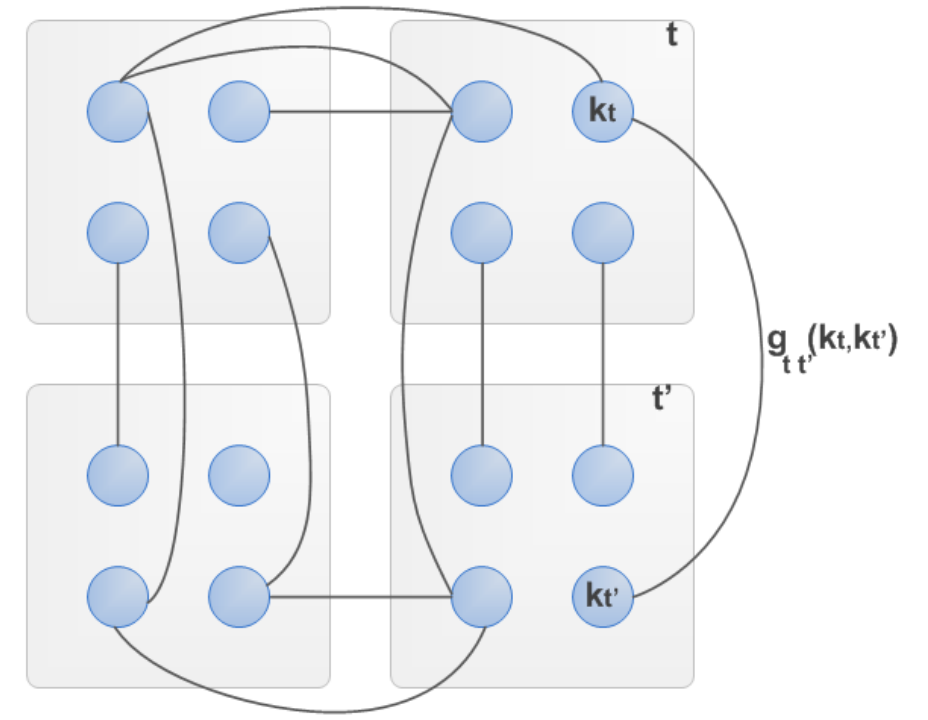
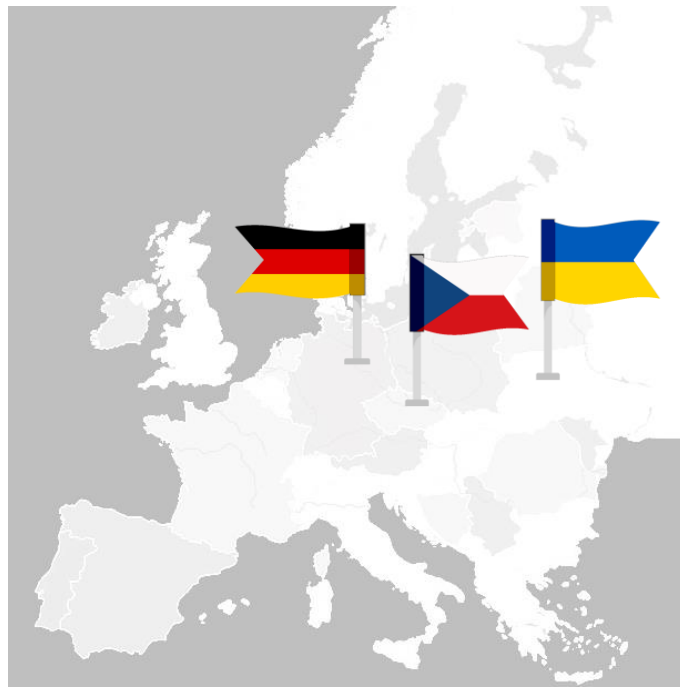


Fingerprinting the bottles so that each instance is identified by the macro-image of specific ROI. This makes an every bottle unique therefore high-quality counterfeit products distributed over gray channels or brand retail are subject to reveal by mystery shopping.

Technologies:
C++,
proprietary
CV libraries,
CanonSDK



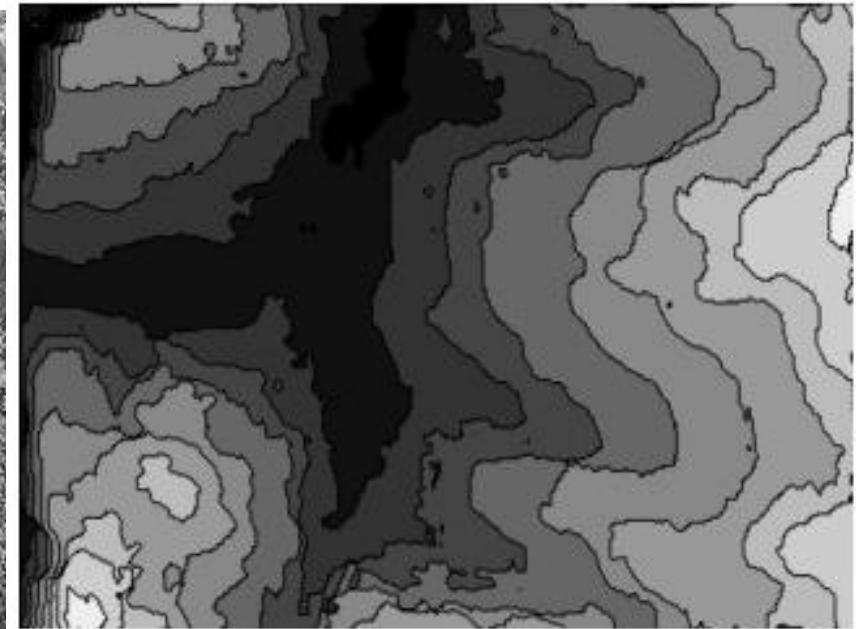
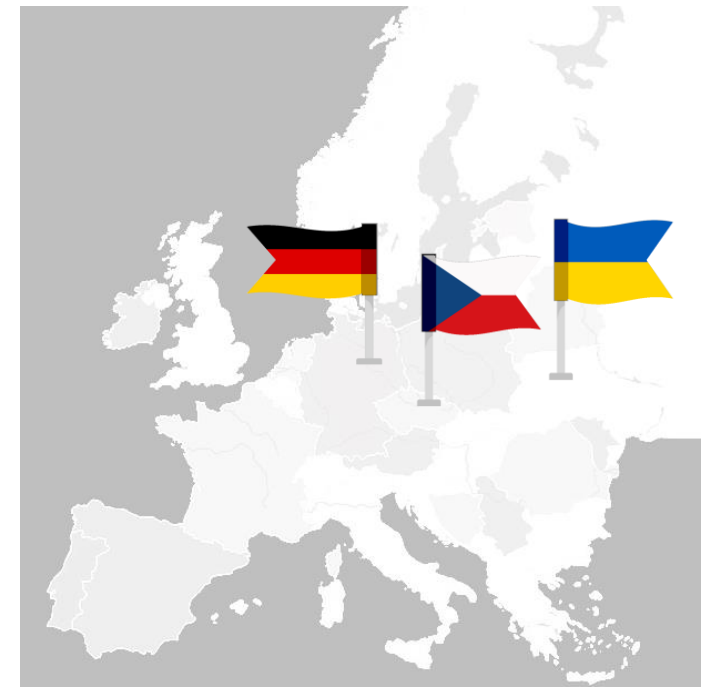
Texture Segmentation



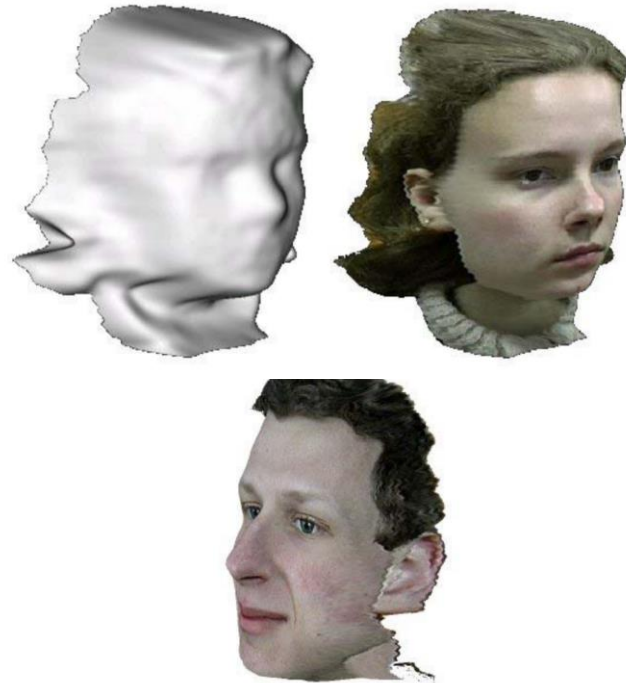
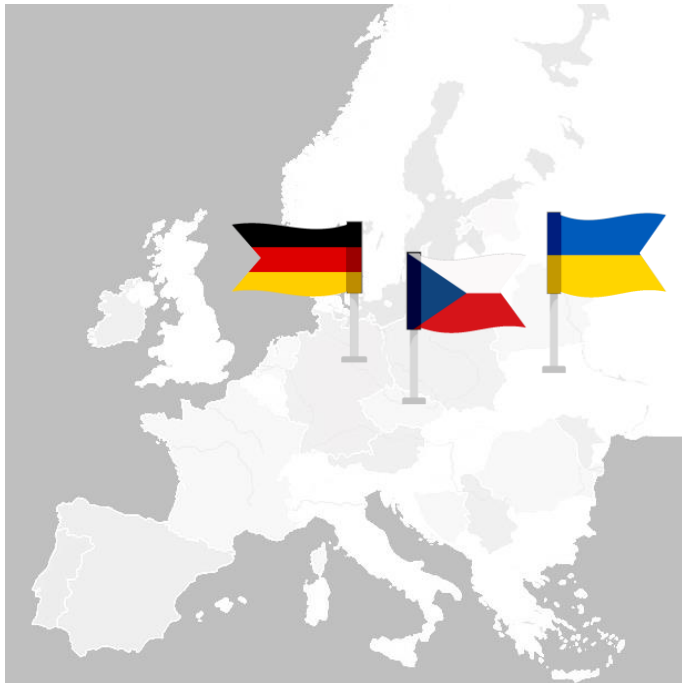
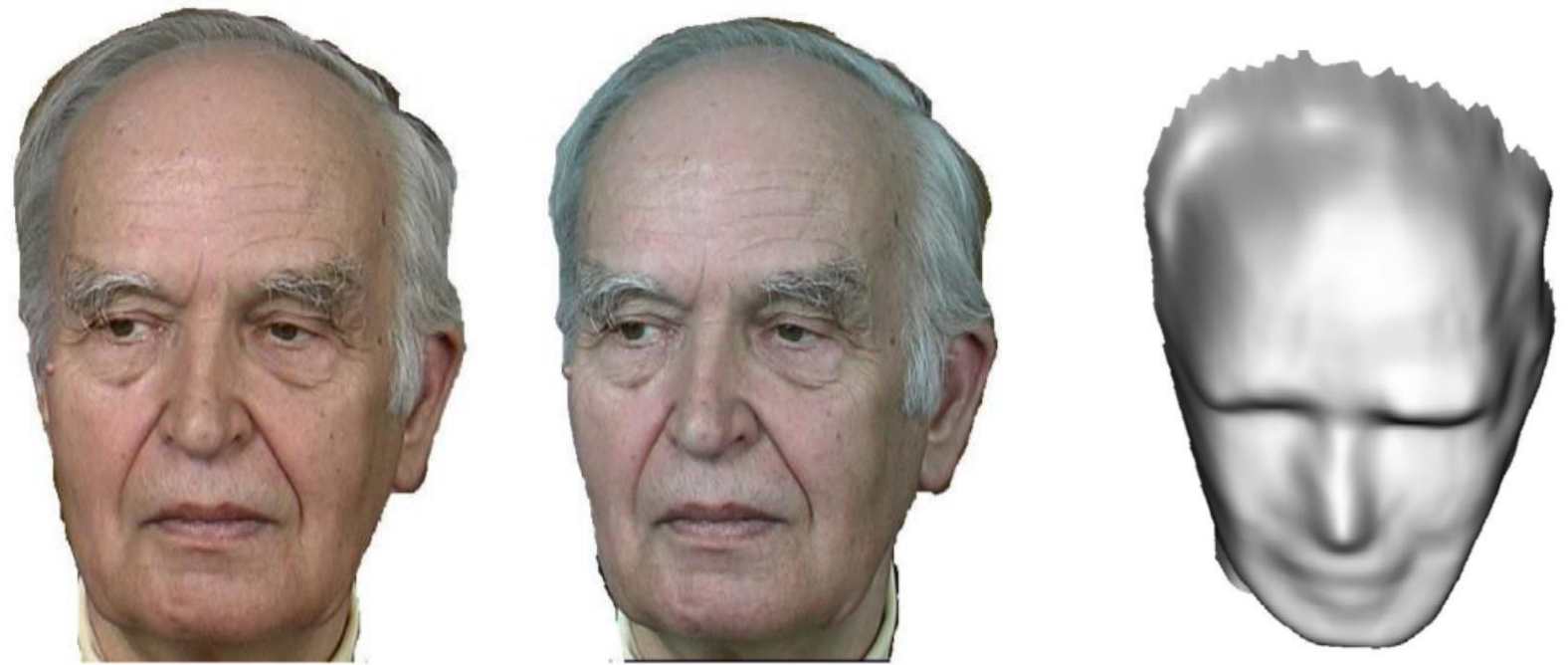
Segmenting an image into different partitions upon spectral characteristics and properties across neighbor pixels. Technologies: C++, proprietary CV and Math libraries, Markov random fields.

Stereo Vision

3D reconstruction of
continuous (no occlusion)
surfaces by stereo images.
Automated camera calibration
for better image alignment.
Technologies: C++,
proprietary CV and Math
libraries, OpenGL, DirectX.



3D Human faces



3D reconstruction of the human face by frontal images. Augmenting the training samples of faces by variation of poses and views. Technologies: C++, proprietary CV libraries, OpenGL, DirectX.

Various projects for Computer Vision and Machine Learning

A number of projects for HealthCare, BigData, Computer Vision for Drones, Automotive and multiple other Industries.

Technologies: Python, OpenCV, TensorFlow, Keras, VGG, ImageNet, C++, AlgLib

