# TECHNO OFFER

# Image segmentation by deep learning

Keywords : deep learning / artificial intelligence / automatic image segmentation / machine learning

# CONTEXT

Image segmentation is necessary for many applications and in many fields: medical imaging, quality analysis, autonomous car ...

The classic techniques used today are diverse and varied and have two major drawbacks: their precision and their time calculation.

# DESCRIPTION

Deep learning techniques provide a relevant solution to these drawbacks.

The automatic segmentation of images by deep learning requires, as a first step, the design of a suitable neural network architecture.

By using a large database of good quality and labeled images, it is possible to train the neural network to learn to perform certain tasks automatically.

Once this network has been trained, the results obtained are precise and the calculation times are short.

What is more, this network can be re-trained at will, as soon as, for example, new data is available allowing an improvement over time in its performance.

## **COMPETITIVE ADVANTAGES**

- > Obtaining precise results and for greatly reduced calculation times
- Once the network has been trained, it is possible to segment many images at no additional cost
- Possibility of re-training the network at several times, in order to improve the quality of the segmentation





### Markets & applications

Medical imaging : segmentation of any type of image - computer vision

Robotics : segmentation of objects

Automobile : autonomous vehicle (object recognition)



#### <u>Development stage</u>

Technology validation in an operational environment (TRL 6)



#### <u>Research team</u>

FEMTO Institute – Sciences & Technologies



#### **Intellectual property**

Software deposit in progress



### <u>Target partnership</u>

Software license or co-development

# **CONTACT-US**





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