EIVA Introduces Deep Learning Features for Data Processing

In order to address deep learning and the possibilities this technology brings, EIVA established a dedicated software development team earlier this year. The team consists of engineers specialising in machine learning, machine vision and deep learning. One of the results of the team's efforts is NaviSuite Deep Learning, which is a new product in addition to the other NaviSuite software products for maritime survey and construction operations.

NaviSuite Deep Learning is able to perform two tasks:

- Classification: Identifying what is in a data set
- Segmentation: Marking where the identified objects are in the data set

Deep learning technology makes it possible to let software automatically recognise and localise objects in various types of data, typically photos and video. This has the potential to save companies specialising in for example pipeline inspections, habitat mapping or UXO detection countless hours of manual work – just to mention a few possible applications.

Integrating Deep Learning

NaviSuite Deep Learning is a black box software product that works in combination with the eventing features in NaviPac, the NaviSuite product for navigation and positioning, and NaviModel, which is dedicated to 3D/4D modelling and visualisation.

It is applicable in three different ways, that is, as:

- A cloud service (hosted at EIVA)
- A rack computer
- An onboard computer

NaviSuite Deep Learning is based on a neural network model, which is trained on millions of various data samples from various providers, typically NaviSuite customers owning subsea assets. The resulting neural network consists of a set of parameters performing the actual object classification and segmentation.

https://www.hydro-international.com/content/news/eiva-introduces-deep-learning-features-for-data-processing