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Bertrandt at the IAA 2019 at Microsoft booth

Launch of a labeling tool for annotating sensor data

(Ehningen, 29 August 2019) At this year's Frankfurt Motor Show (IAA), Bertrandt has a presence on the Microsoft stand to present the labeling tool for annotating sensor data that it has developed in-house. The new automation software package allows objects in camera data, such as road users, to be reliably localised and classified on an image or a sequence of images. The additional information that is obtained in this way can be used to develop automated or autonomous driving functions.

As more progress is made in the field of autonomous driving, issues such as digitisation, connectivity and, in particular, big data are becoming increasingly important. Since October 2018 Bertrandt has been focusing on using statistical methods for analysing large quantities of data and evaluating the significance of the information that is obtained. These are mainly time series analyses (analyses of data points from a range of sensors at different times), data mining analyses (identifying recurring patterns and their causes) and business analytics methods.

One of the key examples of data mining is annotating camera data. Because the volumes of data that need to be evaluated are constantly increasing in size and can no longer be effectively processed using standard software, Bertrandt has developed an automated tool for this purpose. The new program allows for much faster, high-performance annotation using AI algorithms rather than a manual process.

The software is modular and cloud-based which means that it can be customised quickly, is always available and can be integrated easily into other systems. The Bertrandt labeling tool uses machine learning algorithms and during its development the emphasis was on ensuring the accuracy of these algorithms and enabling the annotation process to be fully automated.

"The data labeling tool can be integrated into a complete data capture solution so that information relevant to the subsequent annotation process can be collected during the acquisition of the data. This allows the information to be processed more effectively," says Dr Yusuf Erdogan, head of development and data science at Bertrandt.

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The tool uses existing pre-trained neural networks which means that much smaller volumes of annotated data are needed to learn new features. The neural networks are trained in a cloud environment using specially adapted hardware. The levels of training that are achieved can be retained for individual customers and, after the training has been completed, new data can be annotated on a fully automated basis.

"One of the key advantages of our labeling tool is that it can easily be scaled up with cloud resources such as the Azure Kubernetes Service. It also enables data to be recorded accurately using the very latest methods. This allows our customers to benefit from significant time and cost savings," explains Michael Schneider, head of business development at Bertrandt.

Dr Yusuf Erdogan and Michael Schneider will be on stand C21 in Hall 5.0 at the Frankfurt Motor Show (IAA) from 10 to 15 September 2019 to present Bertrandt's solution and answer visitors' questions.

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