Problem – Challenge

Automatic text analytics can be helpful in many companies and industrial sectors, for instance for process optimization, decision support, or to develop new products and services. A classical application in marketing and customer support use social media monitoring to detect positive/negative messages about the company and its products, or to identify trending topics. Machine learning is a technology from Artificial Intelligence which achieves excellent results in text analytics. In fact, machine learning algorithms (and in particular Deep Neural Networks) reach almost human performance in many cases. However, to achieve this, they are usually highly-optimized for one specific task, and a huge amount of human effort is needed to adapt them for a new task.

Solution

Researchers at ZHAW and ETH Zurich have successfully developed algorithms for various text analytics tasks, including sentiment analysis, topic extraction, and age detection. They founded the startup “SpinningBytes AG” in 2015, which brings these technologies to market. First projects are already running. Now they go one step further and automatically generate solutions for customer-specific text analytics tasks. The software works for arbitrary text types (news, tweets, legal texts etc.) and various languages. To achieve this, the customer provides a set of training documents, and the pipeline automatically designs, trains, and optimizes a proper deep neural network. The goal is that the system can generate a suitable software library within three days.

THE DEVELOPMENT OF AN EVIDENCE-BASED ASSESSMENT TOOL FOR CHILD PROTECTION

Problem

Children and adults suffer more than any other age group from different forms of violence. To guarantee the well-being of children, it is by civil law the duty of the state to assess the level of potential risk to children. Based on this assessment, state agencies assign measures of support to children and families. However, until now, there has been a great variety of assessment practices and no consensus regarding the criteria and methods to be applied. This has led to a growing concern for basing such assessment practices on scientific research and for the development of tools for assessing risks and resources.

Solution

The Bern University of Applied Sciences and the Lucerne University of Applied Sciences and Arts have developed an assessment tool based on the most recent research and professional discourse in both the national and the international realm. It is designed as a web application, which was developed in cooperation with a private sector partner to increase applicability. Thus the tool can be used on all conventional electronic systems without any further resources. It provides a novel way for dealing with the task of assessing risk and recommending state measures in child protection cases. The tool is being marketed and sold by both schools of higher education, which also offer training sessions for using the tool.

DEEP LEARNING FOR INFINITE APPLICATIONS IN TEXT ANALYTICS

Problem – Challenge

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