Predictive Intelligence

Machine learning in E-Mail Marketing: With deep learning networks for predictive intelligence

Machine learning is increasingly used to build artificial intelligence in specific fields of specialization. According to the "Gartner Hype Cycle for Emerging Technologies" from Gartner, an IT research institute, machine learning is the hottest trend in the digital world right now. In addition to the classic areas of application like image and face identification, speech recognition and language translation, machine learning with predictive intelligence is making its way into online marketing.

Targeted online advertising with artificial intelligence

Thanks to deep learning networks, the targeted control of online advertising is already possible. The same technology is also used in e-mail marketing to determine, for example, probabilities for the purchase of certain product types, probabilities for the cancellation of service contracts, and to set up corresponding campaigns.

Examples:

► If the network has been trained based on customer data who has or has not bought certain products, it can predict the likelihood of purchase for new data sets. It is then possible to form new groups for targeted contact via email.

For example, all customers with a purchase probability of over 90% receive a hard sell e-mail. Customers with a probability of purchase between 75% and 90% will receive a voucher, in addition.

► It is possible to predict the probability of cancellation for new data sets, if the network is trained based on data from those who have canceled. With these prognoses, it is possible to take measures in advance for vulnerable customers, such as a mailing with a coupon for the extension of the contract.

Find out today, what customers will want tomorrow!

Always be one step ahead with Predictive Intelligence!
A deep learning network in two phases

1. Training phase for the foundation of the network
A lot of training information is required to set up a deep learning network with artificial intelligence. EMM can provide this training data for your website based on your e-mail dispatches and the EMM measuring points. If available, we link this data with the data from your web analytics software.

The CSV format is sufficient for this purpose. At least 100,000 data sets are required to train a deep learning network. About 1 million data sets are recommended, however, and a magnitude of 10 million is perfect. Based on this training data, we build you a deep learning network that can make independent decisions for new data sets.

2. Production phase to use the network for ratings and forecasts
Depending on the training level of the deep learning network, it can be used in productive operation as a predictive analytics tool for various ratings and forecasts. It can predict levels of interest in products, for example, or probabilities of purchase.

The technology:
Our approach to deep learning networks is based on classic techniques like collaborative filtering and reinforcement learning ("users that purchase Product X are also interested in Product Y"). We use deep learning networks based on recurrent neuronal networks and long- and short-term memory networks with back propagation. In recent times, these have clearly won out over collaborative filtering and reinforcement learning in all scientific comparisons of machine learning techniques. In this way, even better results are possible in comparison to classic recommendation procedures.