

<https://blog.en.erste-am.com/first-virtual-chart-analyst-bot-learns-to-look-at-charts/>

## First virtual chart analyst – bot learns to “look at” charts

Markus Auer



Tesla's autopilot can detect road signs, pedestrians and other vehicles with the help of cameras installed in the vehicle. The key to this lies in computer vision, a special field of machine learning. The EAM has used this technology to create the world's first virtual chart analyst.

### I'll believe it when I see it...

To recognize things visually is one of the first skills that humans learn. Although the processing of visual stimuli plays an important role in our lives, it often seems self-evident to us. In 1996, a computer was able to defeat a human in chess for the first time, but it was only later that machines "saw the light of day".

Today, powerful processors and a flood of visual training data enable machines to recognize objects quickly and react at lightning speed, which pays off especially with autopilots and manufacturing robots.

### Chart analysis – a dying art?

With the increasing quantification of the financial sector, chart analysis, one of the oldest tools for investment decisions, became less and less important. The basic assumption of chart analysis is that market prices are largely dependent on the moods of market participants, which manifest themselves in patterns in price charts.

In addition to a large number of patterns, the chart analyst's intuition plays a major role in ensuring that prices are correctly forecast. As with a good craftsman, intuition is a skill that must be laboriously acquired over a period of years, unless you are a machine...

### The world's first virtual chart analyst

In consultation with a human chart analyst and with the help of about one million [charts of stocks](#) from the S&P 500 Index, Erste Asset Management trained the world's first virtual chart analyst. A new algorithm developed by Google was used, which is based on deep neural networks and is also used in self-driving cars. The virtual analyst can be fed stock charts and, in addition to the probability of a positive future price trend, also provides a picture in which the forecast is "justified".

Initial tests of the system delivered promising results.

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*Note: Dynamic analysis of the chart image from Apple. The number in the upper right corner indicates the probability of a positive return. Red areas indicate a positive development, blue areas a negative one. Note: Past performance is not indicative of future development. (Source: Erste AM)*

### Man vs. Machine?

The question arises as to whether machines will be able to make independent investment decisions in the future. With the current state of the art, this is not the case in the foreseeable future, since in addition to chart analysis, a large number of factors influence investment decisions that are difficult to automate.

However, robots such as the virtual chart analyst will certainly serve as a tool for human decision makers in the future. In order to be able to consider the individual needs of each customer in investment advice, a human contact person will continue to be necessary in the future.

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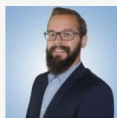
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Discretionary Portfolio Management