



Sweden: the rise and rise of Al

19-02-2016 Maria Zamkova

Artificial intelligence (AI), the area of computer science dealing with the creation of intelligent machines that work and react like humans, has been an interesting topic for writers and scientists since the automaton Talos of Crete in Greek mythology.

It has become an essential part of the technology industry, including logistics, data mining, medical diagnostics and intelligent personal assistants in smartphones, and will have an increasing impact on our everyday lives.

Sweden is very active on this topic, and both Uppsala University and the KTH Royal Institute of Technology have AI courses which, after completion, will allow students to be able to "analyse and solve problems involving various forms of search algorithms, and develop systems that utilise artificial intelligence", according to one official course syllabus. As a result, the AI industry is growing in Sweden.

US-based company IPsoft, which works on "automatically speaking customer service", has recently stepped into the Swedish market. Chetan Dube, chief executive, told Swedish technology magazine *Ny Teknik* that "Sweden is in the forefront of using innovation to move beyond the competition, not only with small improvements, but in large increments. Innovation is in the blood here. We do not just roll out our technology in Sweden, but also have research and development of cognitive techniques here." According to Dube, using AI, automatic customer service will make phone calls four times faster and 60% cheaper.

A patent search in the official database of the Swedish Patent and Registration Office gives 297 hits on "artificial intelligence", showing that this technique is today used in everything from cars to mobile phones and musical melodies.

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Swedish inventor Mats Hillborg has a valid patent, SE 528 839 C2, for a "melody generator". It uses Al to solve the problem that mobile phones, etc, typically do not generate melodies that are "perceived as sufficiently attractive".

Just before Christmas 2015, Swedish telecommunications company Ericsson, one of the leading manufacturers of equipment for mobile networks with more than 35,000 registered patents, announced it had settled all 41 patent infringement disputes with Apple and reached a global licensing agreement.

As part of the deal, the companies will collaborate on the development of 'fifth generation' 5G cellular standards, the optimisation of existing wireless networks for operators, and in-video traffic optimisation. In other words, they have agreed to create the mobile phone of the future.

The settlement with Apple was announced shortly after Ericsson ConsumerLab's publication of research into more than 100,000 customers. The research shows that smartphones are likely to disappear from the market within five years as the growth of AI starts to enable interaction with objects without the need for a phone or tablet.

According to Rebecka Cedering Ångström of Ericsson ConsumerLab, who was interviewed by Swedish news agency *Tidningarnas Telegrambyrå* on December 8, 2015, artificial assistants could help consumers to multi-task, as well as working as teachers, financial advisers and even doctors. Not everyone agrees. Steve Wozniak, one of the founders of Apple, warned about Al when he made a presentation at the conference From Business to Buttons in Stockholm in April 2015. "What will happen when a robot will be better than we think, in the same way as other machines have become stronger or quicker than us? Have we ever replaced a machine that has replaced a human?", Wozniak asked when interviewed by Swedish newspaper *Dagens Nyheter*.

Wozniak is supported by University of Oxford philosophy professor, Nick Bostrom, in his 2014 book "Superintelligence: Paths, Dangers, Strategies". He states that "true artificial intelligence, if it is realised, might pose a danger that exceeds every previous threat from technology—even nuclear weapons", and that "if its development is not managed carefully, humanity risks engineering its own extinction".

So, Al is here to stay, and it's up to us as customers to make sure it is used in the right way.

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