Transforming retail through visual search solutions, AI and big data

Increasingly, consumers are shifting from text-driven to image-driven content. Big Data, computer vision and artificial intelligence are being used to develop solutions that can save companies time and money and improve their customers search experience.

"If a picture is worth a thousand words, then the next wave of search technology might help you save keystrokes – and help retailers sell you exactly what you're looking for" - Investor's Business, Yahoo Finance 2014

Cortexica is a provider of cloud-based and on device image recognition systems and visual search technology. Formed in 2008 from the world leading biotech laboratories of Imperial College London, Cortexica originated from a seven-year research project to reverse-engineer the human visual cortex.

Currently used primarily in the retail sector to aid consumer search experience, Cortexica's image recognition technology mimics how the brain's visual cortex perceives objects and images, and combines that with the identification from machine-based learning. Their solution identifies items or features within an image, categorises them with artificial intelligence, and identifies specific

details such as colour, textures, motif and patterns using visual search technology in order to find and suggest similar items. Cortexica's technology has 95% accuracy, the same as a human being and is 10 x faster than other visual search technologies, providing accurate search results in under 1 second.

Using Big Data processing abilities, Cortexica's solutions can automatically tag images of products with a retailer's preferred hierarchy and taxonomy structure. Saving expensive manual work, all images are returned with the correct metadata structure attached. A similar process can be used to identify duplicates in a large database of images. Cortexica's technology can also be deployed to analyse the consumer trends that are driving shopping habits.

Cortexica's visual search technology has come to be widely used by a range of blue chip companies, such as Net-a-Porter, eBay, Virgin Money, Accenture, Very.co.uk, Macys.com and Zalando (awarded the 2015 Drapers "Best Innovation in Fashion Retail" award for its photo search app, powered by Cortexica's findSimilar™).

Cortexica and John Lewis

In 2016, Cortexica partnered with UK retailer John Lewis, known for their innovation and quality, to build Cortexica's image-recognition technology findSimilar™ into the John Lewis iPad app. The 'Find Similar' function, which allows customers to search for other products that are similar in shape, colour, pattern and motif, provide image matching functionality for visually similar products, and inspirational search, was received positively by John Lewis's consumers:

"Since introducing the Cortexica visual search technology in our iPad app, customer feedback has been overwhelmingly positive and we look forward to seeing how this continues throughout the trial period." – Sienne Veit, Director, John Lewis

John Lewis was the first UK retailer to incorporate visual search technology in this way within its online retail offer. Over a six-month period, John Lewis found that the 'Find Similar' feature increased customer engagement, with 90% of customers stating that they found the Find Similar feature useful. Conversion was also higher on the iPad app in categories that incorporated the tool.