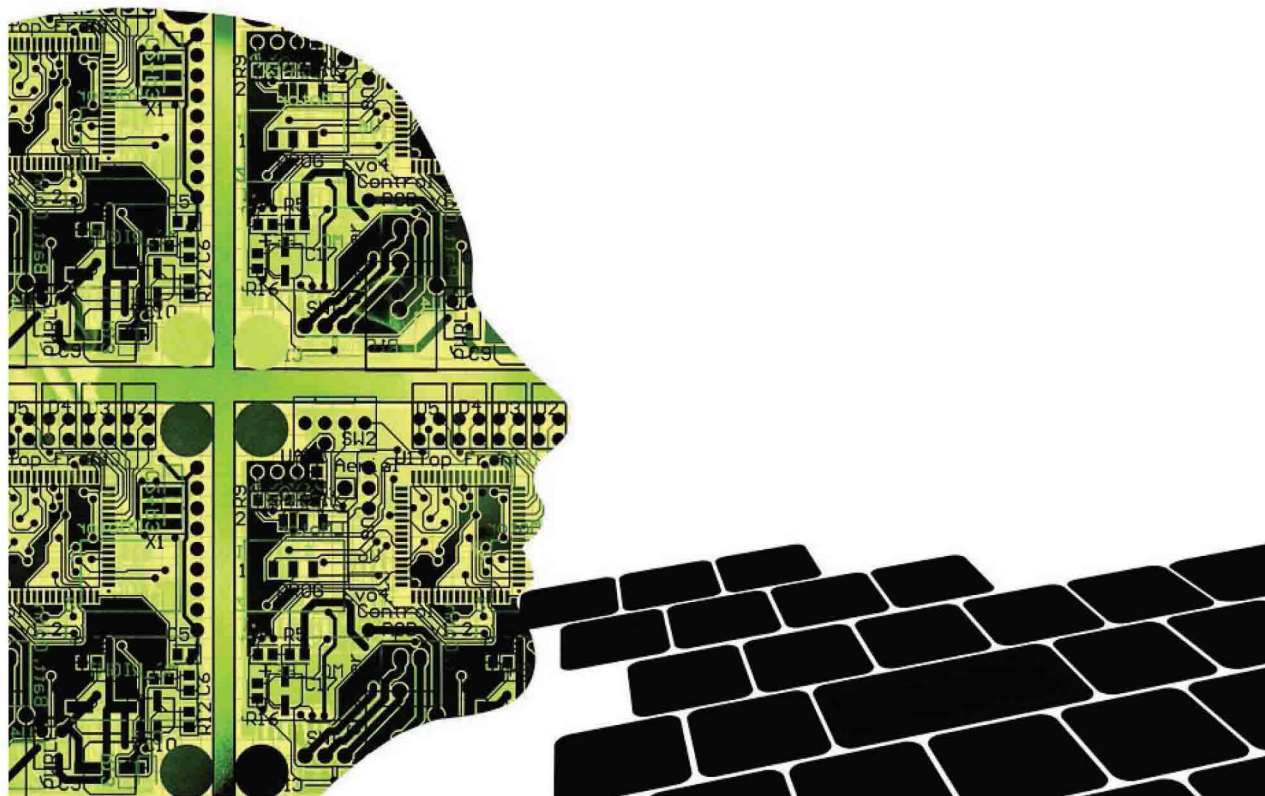


INTELLIGENT RETAILING

Artificial Intelligence can be used to make laser sharp informed decisions on what to spot, what to buy/make, what is working, whom to sell and where

■ By Ganesh Subramanian and Ram Prakash



Fashion is one of the most challenging businesses to operate. Long lead times and short product life cycles compound the complexity of the business. Many decisions are made for the future and the current with minimal available data and a fair amount of judgement.

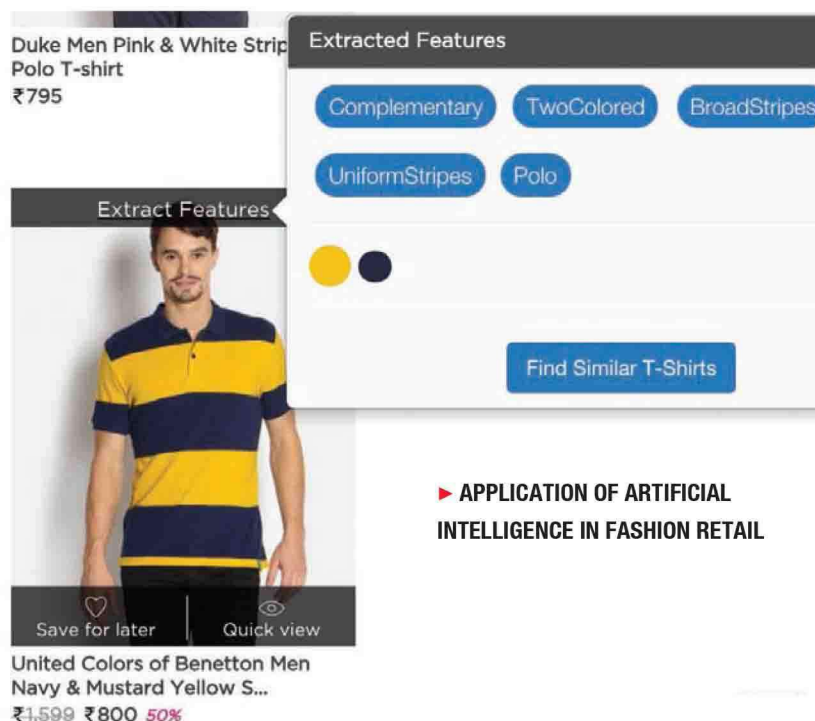
Having worked in the trenches for many years in

the industry, we started out by asking this question: can machines jump in here with more reliable, data-driven and actionable suggestions to help fashion professionals and consumers alike, in real-time?

To answer this we are applying the advances in Artificial Intelligence (AI) and computer vision to model, analyse and derive actionable intelligence

from unstructured data sources. The intelligence of the models we are working is derived from data sources like images, user behaviour data and textual descriptions on social media or implicit signals to be mined from retail sites: all by using machine learning approaches.

We found that AI can be used to make laser-sharp informed decisions for current course corrections and future directions. It can help answer key questions such as: what to spot? what to buy/make? what is working? whom to sell and where?



► APPLICATION OF ARTIFICIAL INTELLIGENCE IN FASHION RETAIL

◀ HERE IS HOW MACHINES HAVE ADAPTED A DESIGN SIGNATURE TO REAL LIFE PICTURE USING AI. THIS CAN HAPPEN IN FASHION TOO.

out of unstructured data. They are non rule based and learn from the data on their own (self learning) and get better with data and time.

In fashion industry, data is available in three forms: text, images and videos and is largely unstructured. Most of it is in public media. Leveraging the power of AI using Natural Language Processing (NLP), Machine Learning, Deep Learning and Computer Vision can help make sense of these three forms of information at internet scale in real time.

It is especially helpful in a trend-driven industry like fashion as a trend is nothing but movement which has its beginning and a gradual adoption. With the



advances in technology in deep learning, we can not only spot the trends but also determine the relevant timing for adoption.

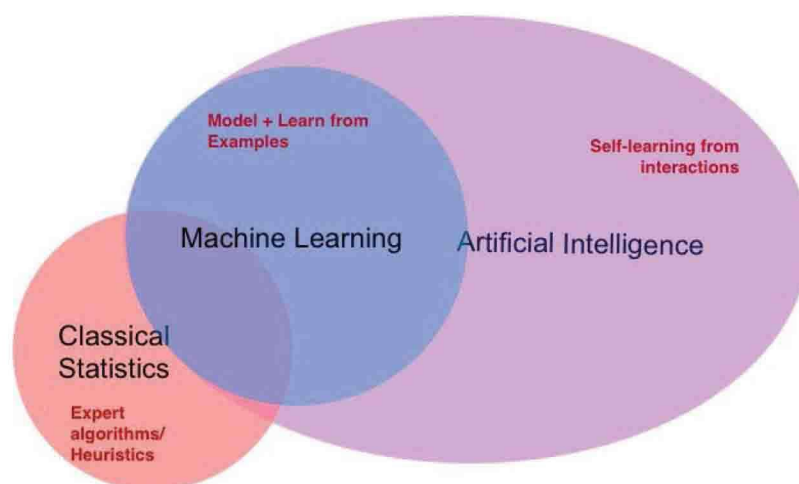
AI AND RETAIL

To know customers better, it is imperative that we make sense of all the information available on the internet relevant to our brand, at real time. AI will help retail, fashion and luxury in:

- Understanding consumer taste (decoding fashion dna)
- Determining the right time to start product idea/trend
- Deciding where to launch and when
- Getting a deeper understanding of market/competition in real time

AI is already being used in extracting attributes from visuals and finding visual similarities of products. We recently conducted a pilot where we used AI to decode the tastes of women consumers. What we found is a remarkable improvement in matching products to consumer taste using abstract similarity in existing retail environments — from under 5% likability of products to over 70% likability.

And it's well known that the



► HOW SIMILAR OR DIFFERENT BETWEEN MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

more relevant the proposition is to consumers, the better is the customer loyalty, revenue and profitability.

WHAT'S NEXT?

- Deep learning models performing difficult tasks like abstract similarity matching
- Deep learning models generating art works (They could be trained to produce new designs)
- Reinforcement learning to model the 'rules of the game' even in unobservable environments.

HOW FAR CAN AI GO?

AI will enable and propel the output of professionals in the fashion industry by helping them take informed decisions. What it would

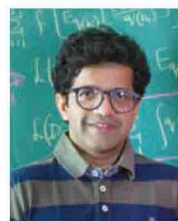
do is to align the supply side of business closer and ever closer to the consumers.

Machines could eventually even create designs/products. We see this as a great enabler for fashion designers in exploration and rapid reduction in mind to market. Creative minds will have machines assisting them and expanding the possibilities. Machines have adapted a design signature to real life picture using AI. This can happen in fashion too.

Artificial Intelligence will be a great ally to every fashion related profession in the world. Those who embrace early have a chance to go closer to consumer and stay ahead. 😊



Ganesh Subramanian is the founder and CEO of Stylumia. He has headed New Initiatives at Myntra and also was its COO. He has over 20 years of experience in fashion and lifestyle retail during which he has held leadership roles in supply chain, brand, buying and merchandising, and retail operations working with organisations such as Walmart, Reliance retail and Arvind Brands.



Ram Prakash is the co-founder and chief scientist of Stylumia. He is an IIT-M alumnus and founder of two other tech start-ups.