4 ways AI and fashion will transform healthcare in 2021

Has the way something looked ever impacted whether or not you use it, even if it could have a positive impact on your health? David Newns, founder of wearable tech clothing company Prevayl, explores the link between AI, fashion and health.

Machine learning has incredible potential to help humanity. Computers can process information faster than we can, see patterns that we can't, and make decisions at speeds we simply cannot. The huge opportunity is to harness the power of computing to crunch mass data points that give us personalised insights. This information can help us make positive choices.

One area where we need this sort of help is preventative healthcare. There's an interesting medical tech founder called Dave DeCaprio of ClosedLoop, who said: "When someone walks into the hospital, it's already too late [to avoid costly treatments] in many cases. Most of your best opportunities to lower the cost of care come by keeping them out of the hospital in the first place."

We need to lower the cost of healthcare, because

we're living longer.

Reports like 'Transforming healthcare with AI: The impact of the workforce and organisations' by McKinsey and European Union's EIT Health highlight the burden this news puts on the system, with shrinking healthcare resources available to cope. With this sort of disruption, it's no wonder global healthcare providers are looking for innovation to help.

Whether it's simply easing stress on the one end of the scale to predicting bigger health problems to help better deliver preventative care on the other end, the key is to get data, understand the patterns and give personalised solutions with less human intervention.

Currently health sector providers cannot do this enough at scale. Much has been written about wearables like Fitbit and Apple Watch offering a new kind of preventative care, but these devices don't yet go far enough. However, continuous monitoring of vital health data can be more helpful than ad hoc bits and pieces on a hospital bed. So, how do we get bigger data sets that we can get AI to help with?

Clothes will give AI more human data points than watches

When I cofounded Prevayl with Chris Lord and Adam Crofts, I realised that clothing was the answer. It can obtain far more health data points from people continuously; the trick is how you turn it from this sort of passive object into a smart, active one.

I think what's exciting about smart clothing is, compared to a smart watch, we get more abundant data from the body in more depth and at a greater accuracy than any other kind of wearable technology. This is important because the human body is so nuanced. Small differences in your heart rate, core temperature or heart rate variability can actually be significant.

Highly effective Artificial Intelligence (AI) is critically important in this case so that not only can we gather and structure the data, but we can do something more useful than has ever been done before with it. We can predict the sorts of illnesses and diseases people will get, and then work with healthcare pros to develop and automate personalised interventions.

I think we're getting really good at these sorts of advances in the UK and Europe. While you've seen Apple Watch and Fitbit come out of the US, here, there's an incredible ecosystem for a smart clothing revolution.

In clothing, you've got this incredible craft and manufacturing heritage, and London, Milan and Paris dominate global fashion. But you've also got this amazing health tech ecosystem, which I've been involved with for a decade.

AI gets fashionable

Clothing offers an amazing opportunity to capture information. Vogue's archive editor Laird Borrelli-Persson pointed out that few designers have considered working technology into garments. "That integration of functionality and style is the new frontier, and the future," she wrote.

Prevayl are taking a fashion-first approach: smart clothing with incredible technology that was previously only available to elite athletes, with the aim to improve their health and wellbeing. This new smart clothing can read highly accurate data and turn it into precise insights and actions. 2021 is the year that AI will finally become fashionable.

AI that knows when you need to take a break – physically and mentally

Prevayl is able to give people a recovery score, which takes in all sorts of data points in the body. The insight might be that today isn't a good day to work out because the data is showing that you need more recovery time. This means you can now make a truly informed call on how to proceed – in this particular case, about switching to an active recovery programme instead of something more intense. The accuracy of data is absolutely crucial to ensure the machine learning insights and advice are precise.

That's just one example, but it gives you an idea about how this can begin a new era of preemptive healthcare.

AI will help extend life

Writing about the future of health, journalist Joao Medeiros reported about the hope that AI will extend life. He spoke with cardiologist Eric Topol, who is excited not only about how machines are already better than experts at spotting problems, but how they can discover patterns that experts wouldn't even notice.

And that excites me, too. Back at Prevayl, I see the information we can gather at scale that will give swathes of people all kinds of better lifestyle choices. On the one hand you can extend life, and on the other make society better able to afford its globally ageing population. Machine learning can massively help with healthcare on a global scale. It's incredibly exciting.

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