

Speaker: **Mihkel Jaatma – Chief Executive Officer of Realeyes**

Start time: **00:06**

End time: **14:23**

## CONTENT

0:06

Very glad to see you all here. It's really great to be back. What I want to actually start off with is celebrating how much science has already achieved. There is quite a lot that we should be proud of. We've made it over to the moon. Conquered the depths of the oceans and we even have a pretty good understanding of how the whole universe works from sub atomic particles to the entire galaxies. But what we still actually still struggle with is understanding our own human minds.

0:40

Perhaps the last big frontier and the toughest challenge ahead of us in science still. The brain is the most complex organ we have in the human body. It has as many neurons as there are stars in the Milky Way and they form a million new connections between themselves every second. And in many ways, our own brain is much deeper than any of our oceans. So, even if our working methods evolved to be able to handle this complexity, I'm sure we would all agree that looking at people as some sort of sum of neural pathways is not gonna tell us the whole story. We are much more than a mathematical model of neurons. We are much more of a collection of our thoughts and feelings.

1:30

But how to measure and analyse that human aspect in a practical way is a challenge that we are still working on. Now here's a bit of a personal story, because this measurement in analytics has always been my thing. Ever since I was a very small kid, I was fascinated by data, facts and figures of all kinds. The two favourite books that I had in my life was an Atlas and an Encyclopaedia and what I immensely enjoyed doing was just going through that and categorising the size of different rivers and islands and writing it down in my notebook.

2:11

So, if you ever know of a geekier thing where the child could really enjoy, I'd love to talk to you over the coffee break, really. Well, why on earth did I do that and loved doing it? I think, I guess I always believed there was something really solid about data. There's some sort of inherent promise of truth that really, really captivated me from the very beginning. So you can imagine my disappointment then when I followed the numbers to my very first job as a fund manager.

2:49

I was actually really excited. Finally, I was gonna work on real big numbers that would have real impact, but that excitement waned pretty quickly as I realised that the numbers that I worked with, every single day, they were comparably pointless to the stats notebooks that I wrote up as a child. My Excel sheet with assets location numbers were just code numbers. They didn't have much of a story behind them and their impact on any people's lives was very limited. So that's how I came to Oxford literally to find a more meaningful way to work with data and analytics and it was here where I came across the idea, even the possibility that we could measure what people feel or what really captures their attention.

3:43

I immediately realised that that human data, was exactly what I was looking for. So, for me, human data really means two things. There is like solid numbers and analytics on one hand and then a promise of a deeper meaning on the other. And that's what emotion measurement for me takes from both sides, because it can tell us a lot about real people and it really can have all sorts of impact on different activities that we people do. So, what do I mean by emotion measurement? Well, the way we people feel is actually quite visible in our reactions and behaviour. Facial expressions for example well can reveal directly many of our main emotions as you can see here on the screen.

4:33

What we are able to do now these days, using the latest advances in computer vision and machine learning is to pick up those physical cues and understand what people feel why absolutely any internet connected webcam. So, phones in your pockets and laptops that you work with, they are all good enough for that. So this tech, the webcam tech is really new; it's really leading edge. It actually builds on more than almost two centuries of research, because it was Darwin, was the very first in his 1872 book of *The Expression of Emotion in Man and Animals*, made the argument that some of the emotions that we have, they are biological.

5:19

It's not something that we learn in our lives, but they're literally built into us when we are born, so you think of unborn babies smiling on x-ray scans or or blind people having the very same facial expressions as all of us, even though they never saw another person in their life. So this idea, initial big idea was picked up by psychologist, Paul Ekman in 60s and he went on to create a facial action coding system and has now been a defacto standard in psychology for decades, which basically categorises any possible expression that a human face can make and concluded also in his studies that there are six, the same emotions that we were reflecting over before which are the universal and the same for all of us.

6:08

So, doesn't matter where we come from, how old we are, the way people are happy or surprised is the same in Japan, Madagascar or Iceland, for example. And the great thing is that the webcam technology is even growing beyond those six basic emotions now. Computers can already understand our attention level. They can even read our heart rate, just from a tiny change of colour of the skin.

6:34

Soon enough they will be able to understand most of the complex body language and understand if we are bored, excited or tired. So why is that important? Well, I actually wanna ask you a question, how many questions, how many decisions do you think you actually really logically, rationally think through? I think, you know, we'd like to think that we are thorough and it would be like most of them.

7:05

But, I have to tell you, that's not true, it's just too much to handle. We do too many things every day. And it's now a well-established fact that well over 90% of our thoughts and decisions are actually driven by subconscious instead. And that's perhaps the biggest challenge that business in general is facing, is how do you account for that human dimension and build for that. And that's what emotion measurement can help with and start to pave the way for better services around us, which I believe will be key to solving many, many inefficiencies in, in several industries. So let's take advertising for example.

7:50

There is pretty polarised views between people of that whole concept of what advertising is. But the case is that people do not hate advertising, they hate bad advertising which really just interrupts their daily days with boring and irrelevant messages. On the other spectrum people can actually really love advertising because it's really super funny or it touches you very deeply. They will go as far as to share it with their very best friends or family. So, that's one scenario where at this kind of general emotional intelligence can come into play, because if you understand what content for what people is annoying or exciting, you can use that to align the audiences and the advertising, take out all the friction and waste that there is in this process, today.

8:41

The implications and the applications of emotion measurement tech are well beyond marketing. So let's take education, for example, which is already being assisted by different types of software. But that software could perform so much better if it had the same emotional understanding of the individual that the teacher has in the classroom scenario. Or personal health which is already enjoying a huge boost from all sorts of fun, quantified self apps. But instead of how many miles you ran or how many calories you burnt, these fun apps can and will tell you about your mental health, your stress and happiness levels and how to maximise and optimise those.

9:30

So, the broader point here is that as big data and machine learning are entering our daily lives more and more, data driven decision making in everything literally from your job application, from a credit score, from dating people, from health wellbeing, in everything is becoming the new default. And that's happening whether you like it or not. But what we can change in effect is how much will we take into account of the human dimension in those algorithms, because if you feed it with the right data, they will give us better and fairer decisions in all of those things. So where the technology is today, it really just works over large sets of audiences and they will, aggregates data across that.

10:20

But ultimately it's all about individual, you, the user and understanding exactly your feelings and reacting to that in real time and offering you what really works for you. So imagine a scenario that you are just watching a movie and you are in the mood for a good ending, happy ending in the movie. Content will actually be smart enough to understand that and offer that ending that really does it for you and understand your preferences. Or take another scenario when you had a really, really bad day and you just wanna be left alone and bang, every ad disappears from all of your screens and your Spotify turns on your peace and tranquillity playlist.

11:12

One size no longer fits all and we all know technology has been driving personalisation for a while, already. But with human data in that mix, the recommendations, we will get a much better and it will put us, the consumers much more in control to get things that we actually really want and need. So, you can think of that as a sort of an Internet that understands body language, much like we people do, because a lot of our communication is none verbal and today not much of software understands any of it.

11:48

Emotion measurement is already filling that gap and when it really gets going on scale we are all in a better place to enjoy much more smarter and enjoyable services around us, even beyond those education and health scenarios I already mentioned. So I started very positive with observing how much we already know about space and oceans. But I want to end even more positive, because now we know so much more about ourselves also. Emotion measurement is becoming really helpful in quantifying that human aspect of us better than ever before. And as the data driven decision making is becoming part, be a part of our daily lives it's really the most important time to do more of it.

12:38

I see feelings management becoming a normal part of our daily lives pretty fast. And I'm confident and rather than its potential for manipulation it will put us, the consumers in a much more stronger control over our own life quality. There is one quote I want to share about that point. I came across that seven years ago, I was, it was in some random village in Cyprus and I was on a trip over there straight after I was finishing the course here in Oxford. And I was thinking about that whole emotion measurement stuff pretty heavily back then. So that's when I came across—our life is not measured by how many breaths we take, but by the moments that take our breath away.

13:37

We are all here for that amount of time, so let's make the most out of it. Emotionally where Internet and all the software on top of that that I was speaking about is gonna be a very solid building block that will help us all find and experience more of those breath taking moments. So imagine the impact that it will have on, impact could have on humankind if we could double the amount of those meaningful moments for absolutely everybody on the planet throughout their whole life.

14:12

That's exactly what I see will happen in our lifetimes and that's why I'm so super excited to be part of this, pushing this field forward.

14:21

Thank you.

14:23

[END]