DATA LEADERS WHO'S WHO

DRIVING INNOVATION WITH DATA

Featured in this week's interview

Craig Turrell of Standard Chartered Bank shares on the power of collective intelligence and winning the Future of Enterprise Singapore 2021 award.

Data Futurology

Talent insights.

TECHNOLOGY

Editors note

"We are excited to bring you the Data Leaders Who's Who, 2021. This publication is a collection of stories from the frontline - thought leadership from data chiefs who are driving change and making an impact with data. We extend our sincere thanks to the leaders featured for contributing to this initiative and sharing their insights with our audiences in support of lifting the data capability of the community."

James Lecoutre, Partner, Talent Insights   I   Felipe Flores, Founder, Data Futurology

DATA FOR SUSTAINABILITY

Craig Turrell
Head of P2P Digital Centre of Excellence
Standard Chartered Bank

Financial services are a hotbed of innovation, focused on delivering better and more reliable customer experiences. Craig Turrell, Head of P2P Digital Centre of Excellence at Standard Chartered Bank, has turned data and AI into an award-winning point of competitive differentiation for the bank, by finding the right solutions (such as AI-powered data science platform, Dataiku), and focusing on leveraging the innovation to deliver all-new experiences to the bank and its customers.

Can you tell me how the last couple years have led to the development of your real-time data analytics platform?

It started with speed. There was an understanding within senior management that digital adoption and transformation relies on people choosing digital, because it's the most efficient choice. And yet we still had quite high bounce rate. People were accessing digital products and then not going on to use them in the long term. We looked into what was causing that, and what we found at the core of that was the first problem is speed.

We worked with MIT to understand that the magic number is one second, and if you want to build something that is efficient and that people truly interact with, then the application must interact back with you within one second. At four seconds, 20 per cent of people will look for something else and may never come back to you. At ten seconds 80 per cent of people will abandon you.

At the time, we were delivering data that would sometimes take over one minute to deliver.

Can you further explain how you addressed this challenge?

Your brain doesn't recognise anything below a second. If you want to interact with something in a natural way, so that your brain is not thinking about the machines at work, it needs to meet that one second threshold, as anything below a second that your brain doesn't recognise that the process happened.

After one second, your brain will recognise there was a delay. The longer the delay, the more likely it is that you'll lose people. Now, yes, if you've got a captive process, if it's the only thing they've got to work with, then they're not going to have a choice. You're just going to torture people with inefficient processes. But as a rule, you really do want to investigate the design experiences, and therefore you're really trying to design for that one- to four second window.

Getting it right down to one second is, is difficult, but giving yourself that boundary to one- to four seconds means that you're going to make most people happy most of the time.

That wasn't the only problem that you were facing, was it?

The other problem was, we were mining over about 10 million to 15 million records of data in any piece of financial information. The reality is that that's almost nothing. That was just looking at the "now". If we needed to look five years back, we are looking at something around 11 trillion possible pieces of data. If we wanted to also look forwards, it goes to eight quintillion records. The joke is we were looking at an elephant through a microscope, and we just could not see anything.

It was these two things that drove our first initial ideas and drew us to the Dataiku platform. We also knew intelligence would come next, and we were concerned that we would solve the first two, and then we would have to reinvent or

separately create AI, and then bring it back in to the system. What we needed to do was hyper automation. As a concept, hyper automation wasn't around at the time, but we felt that the large-scale and fast automation of data, alongside what we call "AI in the flow" – where the AI is inside itself - was the important goal for us.

How did you go about designing the experience?

We did some work with Cornell University, around how much information a machine needs. We had the assumption that we needed lots of information, but we wanted to answer the question about what that would specifically look like. Within supervised learning algorithms for classification problems - so machines recognising something - a machine needs around 20 times more information than a human to interact in the same way. So, for the machine to be your peer to help you in classification problems, it's going to need 20 times more information that you've got, which means exponential data needs to support machines to do their job quickly, and also get the value out of AI.

It doesn't matter really what your use case of AI is. Ultimately, AI needs data, so the question becomes what do you need to add to quickly get that much information to the to the user?

How do you explain the difference between the amount of data required of humans and machines?

The amount of information we can absorb has a threshold; it's called the cognitive overload. Meanwhile, when a machine tries to do our job, it doesn't suffer that cognitive overload issue, so it can take on a lot more data.

However, especially in classification problems, it needs a lot of examples to learn how to do the job as we do, because it lacks the multi-perceptrons that exists in the brain. Basically, it's just never going to be as sophisticated as us.

Why was it important to you that your data strategy could be utilised by the most technical person right down to the least?

The new way of working has meant we are working in digital spaces with each other, and you really don't want to preclude people on technical grounds, because the talent of the organisation is quite diverse. It involves people who are data literate, but don't want to be programmers and they shouldn't have to be. Yes, sometimes you have to involve the specialist, whether it be the data scientists,

"SO, FOR THE MACHINE TO BE YOUR PEER TO HELP YOU IN CLASSIFICATION PROBLEMS, IT'S GOING TO NEED 20 TIMES MORE INFORMATION THAT YOU'VE GOT"

or people coming from performance engineering. But other times you don't want to involve them, and allowing everyone to work flexibly together on a problem is what we dreamt that agile looked like.

Finally, when developing any innovative technology, failure is part of the process. What are your thoughts on that?

Failure always feels good if you haven't got a sunk cost strategy. If you spend months after months designing an impeccable process, and it is it was engineered to the hilt, if you then create your model and the three-month average is beating-your models every single time, you're going to be stuck into a sunk cost strategy. You're so invested in what you've already done and that means that you have little choice but to keep on going. Ultimately that's why we see high rate of long-term AI failure.

However, you can also ideate, and approach the project with a "five-day sprint" mentality. To follow Google's example, you would get the ideas down quickly, develop the modelling techniques, and prototype that data quickly, while getting the whole team energised behind the project. Then you'll have all the ideas in that model, before moving to a proof of concept to try to get a minimum viable product turned around fast. These can be done in four to six weeks with two to three people working rapidly. If you approach it this way, then failure doesn't feel so bad.

"ALLOWING EVERYONE TO WORK FLEXIBLY TOGETHER ON A PROBLEM IS WHAT WE DREAMT THAT AGILE LOOKED LIKE."