Today’s world is becoming binary. On one hand, there are a few giants such as Google, Facebook, Uber, and Amazon that have discovered “the magic formula” and have become the only reference in their field in just a few months or years. On the other hand, some large traditional well-established companies can disappear overnight as recent history has proved. In this new world, the companies that will be successful have to integrate Artificial Intelligence (AI) in their strategy and way of thinking which will often imply that a paradigm shift is required.

In order to be a player of this revolution, BNP Paribas has recently created a Data Science and Artificial Intelligence Lab both at the service of its Corporate and Institutional Banking division and of its clients.

Interview of Edouard d’Archimbaud the Data Scientist in charge of the Lab.

EDOUARD D’ARCHIMBAUD

Edouard d’Archimbaud is a Data Scientist in charge of the Data Science and Artificial Intelligence Lab at BNP Paribas CIB. He joined the Group in 2016 having previously held different positions focusing on advanced technological research and operational projects in major banking institutions and hedge funds.

Edouard graduated from Ecole Polytechnique Paris with a specialization in applied mathematics and computer science. He holds a M.Sc. in Machine Learning and Computer Vision from ENS Cachan.
1. TO START, COULD YOU COME BACK TO THE BASICS AND EXPLAIN WHAT ARTIFICIAL INTELLIGENCE IS ABOUT?

Artificial Intelligence is an attempt to imitate the way a human brain works. Actually there are two major ways to think about approach to Artificial Intelligence: weak and strong intelligence. Weak Artificial Intelligence is about creating intelligent programs that replicate certain behaviours of the brain. For example automatic translation system or Voice to Text programs are weak Artificial Intelligence applications. Strong Artificial Intelligence attempts to understand what a human brain is and how it works to duplicate human brain power. The latter remains a dream for now, as we are still far from being able to do this.

2. WHY IS ARTIFICIAL INTELLIGENCE SO IMPORTANT FOR ALL BUSINESSES?

Just to put things into perspective since the development of digitalisation all the information in the world is stored in a digital format, i.e. a format that can be readable and computed by a machine. Companies that will manage to exploit this layer of analytics and create added value for their clients are the ones that will succeed. Uber, for instance, could be seen as a payment platform connecting passengers and drivers. If it was the case, the customer would pay a few basis points for this service as a standard payment via a bank transaction. Uber’s margin is tenths of percents because the added value created is not in the payment service but in the capacity to help drivers to find passengers and passengers to find drivers thanks to data analytics processed by a clever Artificial Intelligence program.

3. ARTIFICIAL INTELLIGENCE SEEMS TO BE AT THE HEART OF THE SUCCESSFUL STORIES OF SOME OF THE TECH GIANTS, CAN YOU EXPLAIN WHY?

I strongly believe that the leading tech giant companies like Facebook, Google, Amazon, YouTube, Netflix, Twitter, Airbnb and BlaBlaCar are the ones that have understood something fundamental: DATA is the key asset. To use Artificial Intelligence you need 3 types of components: data, computing power and brain understanding. Computing power has become a commodity in today’s world. In a similar way, algorithms are now easily accessible in a collaborative economy. For instance, one of the best facial recognition algorithms is now accessible in open source. The treasure of a company nowadays really lies in its data, and some companies have totally understood this.

4. IF WE LOOK SPECIFICALLY AT THE BANKING INDUSTRY, WHICH BANKING PLAYERS ARE BEST POSITIONED TO USE ARTIFICIAL INTELLIGENCE?

For traditional banks like BNP Paribas, we have everything needed to do Artificial Intelligence. We have computing power, brain power and most of all: a big volume of data. Remember this is one of the core assets for Artificial Intelligence and this is what start-ups, “new challenger banks”, do not have. It is very encouraging and we are working a lot to build customer centricity through data centricity. Companies have not historically been built with data as the central point. This is the paradigm shift that is necessary for us to make and that we have engaged in to deliver value to our customers through Artificial Intelligence.

“DATA is the key asset.”

5. CAN YOU GIVE SOME EXAMPLES OF WHAT THE LAB IS WORKING ON?

Yes, we have already engaged in many projects. We are working on a compliance screening system for instance. The idea is to automate the screening of contracts to check if they contain names that are on sanction lists. For this, we are building several bricks: one program that transforms documents into plain text format, one name recognition program that is able to identify and extract the names of people, ships, organisations, places that are included in the text, and finally there is a fuzzy matching program that checks if the extracted names are or not on the sanction lists. We are also working on ways to improve our clients’ experience when interacting with the Bank. For the moment we are aware that we have quite a “silod” relationship with our clients (for instance with multiple web pages). With AI we can build a natural language user interface and intelligent navigator that will help a client go straight to the information needed.
Are you working on anything that will be of particular interest to corporate treasurers?

Yes, we have just worked on the second edition of the Corporate Treasury Insights Survey\(^1\) that BNP Paribas and the Boston Consulting Group (BCG) co-published mid-2016 to create a web tool\(^2\) that enables a treasurer to navigate interactively through the data. More generally we want to create a club to give our clients access to part of the technology that we develop so that they can use it on their own data. Our clients and us are part of the same ecosystem where our data and knowledge are interlinked. Using AI programs will benefit to clients before anything else.

You obviously need to know a lot about how the human brain works to be able to imitate some of its functions. How does the lab conduct research and improve its knowledge of the human brain?

First of all, there are many publications available on the topic and we spend time reading and studying these of course. We have also developed partnerships with some research labs and PhD students specialised on these topics. For instance, we have a partnership with a person working on text mining. Banks know how to process and analyse figures, but they are not as good when it comes to process efficiently text format data. We are also working with specialists in recommendation engines to bring more intelligence to our clients.

In your view should we be scared of the introduction of so much intelligent technology in our everyday life? In other words, what is your vision of the relationship between human and technology?

We are still very far from being able to really and totally replicate the way a human brain works. Technology is not going to replace mankind. Introducing weak AI in our everyday life and work enables human beings to be more efficient and so frees up time for people to concentrate on tasks with a higher added value. For the moment we spend 25% of our time just searching for data, this time is not spent on doing something more useful!

When is this paradigm shift going to happen?

It is happening as we speak. Artificial Intelligence is inevitably spreading across all businesses just as IT spread a few decades ago!

\(^1\) https://cib.bnpparibas.com/adapt/it-s-all-about-client-experience_a-2-69.html
\(^2\) https://cib.bnpparibas.com/treasury-survey/home.html

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