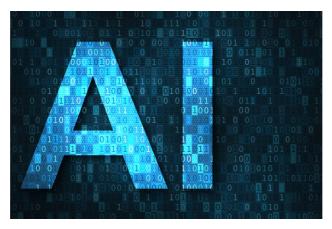# The Amazing Ways Chinese Tech Giant Alibaba Uses Artificial Intelligence And Machine Learning

When you discover the ways Chinese company Alibaba, the world's largest e-commerce marketplace with $248 billion in transactions (more than eBay and Amazon combined), invests in artificial intelligence and machine learning, you realise quickly that the list of what it doesn't impact is much shorter. Since 1999 when the company was launched in founder Jack Ma's apartment, Alibaba's core business remains to sell goods, but its influence and operations have expanded to make it one of the most valuable tech companies in the world.

China's commitment to AI

One of the reasons Alibaba and other Chinese tech companies such as Tencent andBaidu, collectively known as BAT, are making extraordinary gains in artificial intelligence is the support, investment and commitment of the Chinese government to become the dominant AI player in the world. With plans to build a $1 trillion AI industry by 2030, China is on a path to overtake the United States as the world's leader in technology. Along with an enormous population that generates critical data to inform AI algorithms and help make them better as well as a society who is keen on technological change and not as pushy on regulation, China is fertile ground to develop AI applications, and Alibaba is moving full throttle ahead.

In fact, Alibaba invested in seven research labs that will focus on artificial intelligence, machine learning, network security, natural language processing and more.

Singles' Day leverages AI

Singles' Day, once an anti-Valentine's Day to celebrate being single has now transformed - thanks to Alibaba and its founder Jack Ma -

- Tmall Smart Selection: This AI-powered algorithm backed by deep learning and natural language processing helps recommend products to shoppers and then communicates to the retailers to increase inventory to keep up with the demand.
- Dian Xiaomi: This AI-powered chatbot can understand more than 90 percent of customer's queries according to Alibaba and serves more than 3.5 million users

a day. The latest version of the chatbot can understand a customer's emotion and can prioritise and alert human customer service agents to intervene.

- Robots to pack: drones to deliver: More than 200 robots in automated warehouses can process 1 million shipments each day. Once the robots received the orders on Singles' Day, they packaged and shipped the goods, and, in some cases, their efficiency allowed same-day shipment. Alibaba also used drones for some deliveries.

These technological advances that helped power Singles' Day last year resulted in $25 billion in sales, up from $17.8 billion in sales for Single's Day 2016 and more than the GDP of Iceland and nearly $20 billion more than Cyber Monday in the U.S.

Turning physical shops into "smart stores."

In addition to turning some physical shops into "smart stores" for Singles' Day, Alibaba is introducing "digitalization in a box" under its Tmall brand to smaller retailers. Alibaba has redone about 1 million mom-and-pop shops and 100 superstores McKinsey Global Institute, 42% of global e-commerce transactions took place in China, more than Japan, France, Germany, the UK and the U.S. Combined. Many believe that it will only be those retailers who embrace digitization who will survive, and Alibaba is providing the structure to make it possible.

Investment in SenseTime, DAMO Academy, and research

As China's largest R&D spender, Alibaba is the largest single investor in SenseTime; an AI start-up known for its facial-recognition technology, that launched an AI lab in Hong Kong. The lab hopes to "advance the frontier of AI" by supporting other start-ups as they commercialise their AI tech and develop ideas and products. Researchers and other industry participants can also collaborate with start-ups in the lab.

Alibaba plans to spend $15 billion over three years on DAMO (discovery, adventure, momentum, and outlook) Academy.

City Brain: AI control for cities

With its City Brain project, Alibaba hopes to help cities run their operations by artificial intelligence. Already improving traffic issues, City Brain uses a cloud-based system where data about a city and everyone in it is stored and processed through AI algorithms. The project's success in reducing traffic jams by 15% was achieved by monitoring every vehicle in the city. Already successful in Hangzhou, City Brain is going to Malaysia next.

In addition to these examples, Alibaba uses AI to optimise its supply chain, build products and drive personalised recommendations. Ultimately, Alibaba aspires to be the tech giant to provide cloud-based AI which would make AI available to anyone with a computer and internet connexion as well as an AI chip available through the cloud.

With all of these applications, it shouldn't be a surprise that Alibaba's Cloud Unit recently signed a contract with a Chinese food and ag conglomerate Tequ Group to deploy facial and voice recognition on its pig farms. From traffic to pigs, what will Alibaba use AI and machine learning for next? We can't wait to find out.

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Written by

Bernard Marr

Bernard Marr is a bestselling author, keynote speaker, and advisor to companies and governments. He has worked with and advised many of the world's best-known organisations. LinkedIn has recently ranked Bernard as one of the top 10 Business Influencers in the world (in fact, No 5 - just behind Bill Gates and Richard Branson). He writes on the topics of intelligent business performance for various publications including Forbes, HuffPost, and LinkedIn Pulse. His blogs and SlideShare presentation have millions of readers.