



One of the many challenges that face organisations looking at AI and how it fits into their overall strategy is the ability to find effective Use Cases for its Implementation. This is largely due to the lack of understanding around how Augmented Intelligence has been successful and what this means to an organisation.

To help organisations find the inspiration for their first case we have shared in the rest of this article some of the more successful AI solutions across multiple industries.



Industrial



Financial



Health



Customer Interactions

Industrial



Predictive Maintenance

Predictive maintenance can be used in many industries and ways. For instance, it can help you to identify overloads in electrical panels, insulation breakdowns, dangerous temperature and pressure changes, amperage spikes, power imbalances, etc. In this way, it can be used in any business which requires participation of the machines. Manufacturing is among the most popular industries for predictive maintenance implementation (check business intelligence for manufacturing). Those industries which are somehow related to vehicles (for example, aircraft) also tend to use predictive maintenance in order to keep potential failures under control.

The most important competitive advantage of predictive maintenance and machine learning is reducing big losses in terms of funds and time – we talked about this at the beginning of the article. Obviously, you will have to spend a part of your budget on the system implementation, but the return on investment (or ROI, if short) is worth all the costs. For example, the US Department of Energy reports about 70-75% decrease of breakdowns, and that's an impressive result.

Financial



Fraud Detection

One of the most common applications of machine learning in the finance sector is fraud detection. Fraud detection algorithms can be used to parse multiple data points from thousands of transaction records in seconds, such as cardholder identification data, where the card was issued, time the transaction took place, transaction location, and transaction amount. Once the model detects an anomaly among transaction data, a notification system can be programmed to alert fraud detection services in the moment the model identifies a suspicious transaction. Fraud detection is a type of anomaly detection.

Credit Scoring

By implementing credit scoring algorithms, financial institutions do not have to rely on generic scores from credit score reporting firms. Many lending institutions see the benefit in developing custom credit-scoring models that utilize the institution's own customer activity data to better predict the risk or opportunity of extending a new line of credit. By doing so, they can reduce delinquency costs that come from loan write-offs, delayed income from interest and the servicing cost of trying to collect late payments.

Processing for Contracts

For financial institutions, AI Models that can be trained to read and parse contracts, reducing hours of redundant labour. JPMorgan developed such a solution they refer to as COIN (Contract Intelligence). COIN helps analyse commercial loan contracts by parsing the document for certain words and phrases, saving the company 360,000 hours per year.

Customer Feedback

AI has been applied to customer communications on social media, phone transcripts, and customer service chat platforms. These Models can be used to analyse comments for sentiment and intentions. This allows organisations to categorize customer feedback to help institutions better understand the overall sentiment of customers, what most complaints are about, and glean patterns to recognize areas for improvement.

Health



Administrative Tasks

A study conducted by the New England Journal of Medicine last year found 83% of respondents reported physician burnout as a problem in their organization. Half of them reported that "off-loading administrative tasks" would help remedy the problem, allowing physicians to spend more time with patients. A significant portion of these administrative tasks involve reviewing and updating Electronic Health Records (EHRs). Nearly every hospital. uses an EHR system and so do most clinics. Improving the efficiency of updating EHRs is a high priority for most. By leveraging AI to identify and categorize words and phrases, physicians can dictate notes directly to EHRs during patient visits. Doctors and patients alike can review charts and summaries neatly compiled by these tools instead of having to read through notes and test results to understand a patient's overall health. By spending less time maintaining EHRs, physicians can spend more time with their patients.

Patient Risk Identification

Around the world, healthcare providers have begun using tools built from machine learning models that use anomaly detection algorithms to predict heart attacks, strokes, sepsis and other serious complications. These tools use data from patients' historical records, daily evaluations, and measurements of vital signs in real-time, such as heart rate and blood pressure, to alert staff of imminent patient risks so they can immediately take preventive actions.

Accelerating Medical Research Insight

Scientists and physicians would have to read and process an overwhelming quantity of reports and studies to keep up with trends in specific areas of medical research. For example, academics published more than 342,000 articles on drug evaluation and analysis alone between 2007 and 2016. Using AI tools to parse literature will provide medical researchers with valuable insights in the years ahead.

For example, a team of researchers from the U.S. and Ireland worked together to conduct a study on Adverse Drug Events (ADEs) by analysing vast databases of medical literature and social media posts for comments related to drug side effects. the team was able to show the relationships between drugs and side effects.

Visual Data Processing for Tumour Detection

Radiologists' workloads have increased significantly in recent years. Some studies found that the average radiologist must interpret an image every 3-4 seconds to meet demand. Researchers have developed models trained on previously captured radiographic images to recognize the early development of tumours in the lungs, breasts, brain, and other areas. Algorithms can be trained to recognize complex patterns in radiographic imaging data. They can detect breast cancer from mammograms with remarkable accuracy. One early breast cancer detection tool developed by the Houston Methodist Research Institute interprets mammograms with 99% accuracy and provides diagnostic information 30 times faster than a human. Tools like these also decrease the need for biopsies. Most radiologists agree that these tools help them to improve patient care. They make them better at their jobs, but do not replace them.

Customer Interactions



Chatbots

Chatbots are what come to mind for many when discussing AI technology in customer service. Their ability to simulate an interaction with a customer service representative and resolve simple inquiries is an effective self-service solution. Machine learning enables chatbots to learn when they should use specific responses, when they should gather necessary information from users, and when they should hand off a conversation to a human agent.

Virtual assistants

Virtual assistants are different from chatbots in how they don't try to simulate an interaction with an agent. Instead, they focus on specific areas in the customer journey where they can aid the customer. When enabled with machine learning capabilities, they can learn what kind of information they can pass along to agents (or saved to be used in analytics programs) and enhance the kind of assistance they provide.

Content creation

Nearly 40% of customers claim that searches within knowledge bases don't generate the help articles they're looking for. Machine learning can be used to analyse the data that comes in from support tickets and turn them into actionable insights for agents to apply to help articles. Those insights point out how users describe their issues and if those descriptions are like the content of the knowledge base. Agents can then take those recommendations and adjust the help articles, making them more relevant and easier for customers to find.

Customer Retention

Customer retention analysis is the application of statistics in order to understand how long customers are retained before churning out and to identify trends in customer retention. This type of analysis discerns how long customers usually stick around, whether seasonality affects customer retention, and discovers behaviours and factors that differentiate retained customers from churned customers. In a survey of more than 500 business decision-makers conducted in the fall of 2018, 59 percent of large companies said that customer retention was their primary use case for machine learning technology.

Contact Us

Nicholas Vujcich

Customer Experience Consultant

nicholas.vujcich@global.ntt

+64 93 565 680