RED LAB

Rediffusion Consumer Lab

AI

FROM ARCH ENEMY TO INSEPARABLE ALLY

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WHILE AI IS STILL IN ITS INFANCY,

we've been debating it since the late 1950s. How could a machine be more intelligent than a human? What would happen to our job security? If the machines take over, what will become of us? These questions have gained momentum in the last few years thanks to progress in technology. Things are moving fast, and we need a solid understanding of what AI is and how it works if we want to ensure that it's beneficial to us.

Our current perception of AI has been shaped by the media and Hollywood in particular. The most common depiction of AI is that of a machine with superhuman intelligence that turns against humanity. In the film 2001: A Space Odyssey, an AI super computer takes over a space ship and the people on board. It is treated as a villain. In The Terminator, an AI robot is created to protect humans from being harmed by other robots, but it becomes self-aware, and as soon as it does, it decides that humans are the danger to be avoided so it tries to kill them all. Time and time again AI is treated as something we should all be afraid of.

SO WHAT IS AI?

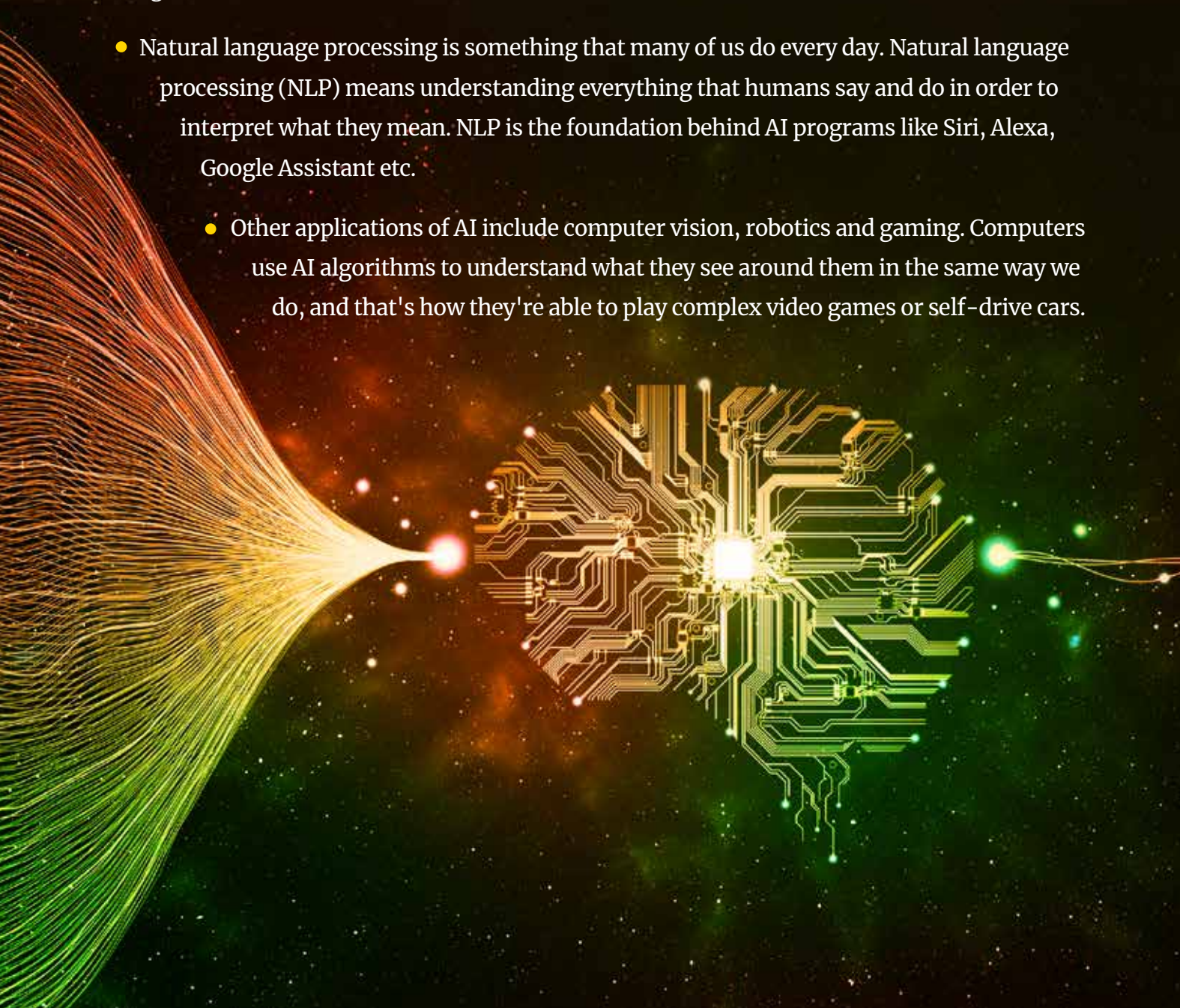
AI is an umbrella term that refers to a collection of machines and techniques that enable a system to solve a problem in the same way as or better than humans.

Let's unpack this statement:

- AI is not one machine or technique. There are many different systems that are called artificial intelligence. Some of them are better at solving a certain kind of problem, but they're all part of the same family because they use the same underlying mechanisms such as Machine Learning, Deep Learning, Neural Networks, Cognitive Science etc.
- AI is not something that is going to replace humans. Actually, the goal is to help humans withbetter decision making and problem-solving so that we can do our jobs better.
- AI is not a conscious machine that makes its own decisions. As it does more tasks, it will develop an ability to learn, but it does not have feelings or emotions, and it will never develop consciousness because it is just a machine doing what it's programmed to do.

SO WHAT KIND OF PROBLEMS IS AI GOOD AT SOLVING?

- Data analysis is a field that has many everyday applications. AI is currently used to analyse the enormous amounts of data we have, and it can do it much faster than humans can.
- Machine learning uses an artificially intelligent machine to improve its own intelligence by identifying patterns in datasets and making predictions about what will happen in the future based on them. This technology is behind many products we see in our daily lives, like Facebook's face recognition system, Amazon's recommendations engine, Google's search results etc.
- Natural language processing is something that many of us do every day. Natural language processing (NLP) means understanding everything that humans say and do in order to interpret what they mean. NLP is the foundation behind AI programs like Siri, Alexa, Google Assistant etc.
- Other applications of AI include computer vision, robotics and gaming. Computers use AI algorithms to understand what they see around them in the same way we do, and that's how they're able to play complex video games or self-drive cars.



OK, BUT HOW IS AI BEING DEPLOYED IN TODAY'S WORLD?

Some of the few real-world use cases of AI are:

ENTERTAINMENT

MOVIES

The film industry is using Machine Learning, where they teach a machine how to learn about a certain aspect of content.
AI is helping studios pick out the right scenes, the right sound effects for designing trailers tailored for a particular audience.

Using algorithmic language translation, AI is also helping in captioning shows in different languages. It does so by first absorbing the first 4-5 seasons of the show to learn the lingo. The more it learns about the show or language, the more efficient it becomes.

MUSIC

AI is helping the music industry with artist discovery by sorting through music libraries and databases and helping in identifying the next breakout star. Musicians are also using AI to create otherwise impossible new songs, ushering a new era of creativity.

CUSTOMER EXPERIENCE

Customer experience starts right at the beginning, the first touch – which can be an email or a pop up notification, all the way to the end when you actually purchase the product, or you want to return it/exchange it.

AI is playing a big part in creating a connected customer experience.
AI is helping in product discovery - if you are a company with lots of products.
AI is helping in the product selection process – assisting consumers search more efficiently for relevant things they are looking for.

With AI, we have big data and predictive analytics – and through the combination of these 2 things - companies can now obtain a more comprehensive profile of what the customer wants. This is helping brands connect more personally with customers, creating tailored experiences, personalised emails and offers and so much more.

HEALTHCARE

Cancer:

Integration of AI technology in cancer care is improving the accuracy and speed of diagnosis, aiding clinical decision-making, and leading to better health outcomes. AI is also accelerating cancer drug discovery by detecting and interpreting features of target molecules and making predictions for new cancer drugs to target those molecules and evaluate drug effectiveness.

Cardiovascular Diseases:

CVD still represents the leading cause of morbidity and mortality worldwide. Applications of AI in cardiovascular medicine are Machine Learning techniques for diagnostic procedures including imaging modalities and biomarkers and predictive analytics for personalised therapies and improved outcomes.

Dementia:

Alzheimer's disease and other forms of dementia are a growing public health problem all over the world with more than 50 million people worldwide living with dementia in 2020. The AI-based Integrated Cognitive Assessment (ICA) test is a highly sensitive test for early detection. It is based on humans' strong reaction to stimuli, and the ability of a healthy brain to process images of animals in less than 200 milliseconds. This test gives an objective, highly sensitive measure of cognitive function, as well as an AI explanation of the model prediction.

Haematology Diagnostics:

Today we are seeing a shift in diagnostics from phenotype to genotype; analogous to digital. The plethora of available molecular information has broadened the landscape in leukaemia and lymphoma diagnostics. AI is at the brink of being introduced into routine diagnostics to enhance diagnostic methods but even more to facilitate disease classification and guidance of treatment.

ENVIRONMENT

Various companies are looking at their environmental impact and AI is helping them to monitor and address some of these changes. Companies are now more mindful of their impact on the environment - whether it is consumption of goods and products, their supply chain footprints, their usage of electricity and energy and other resources.

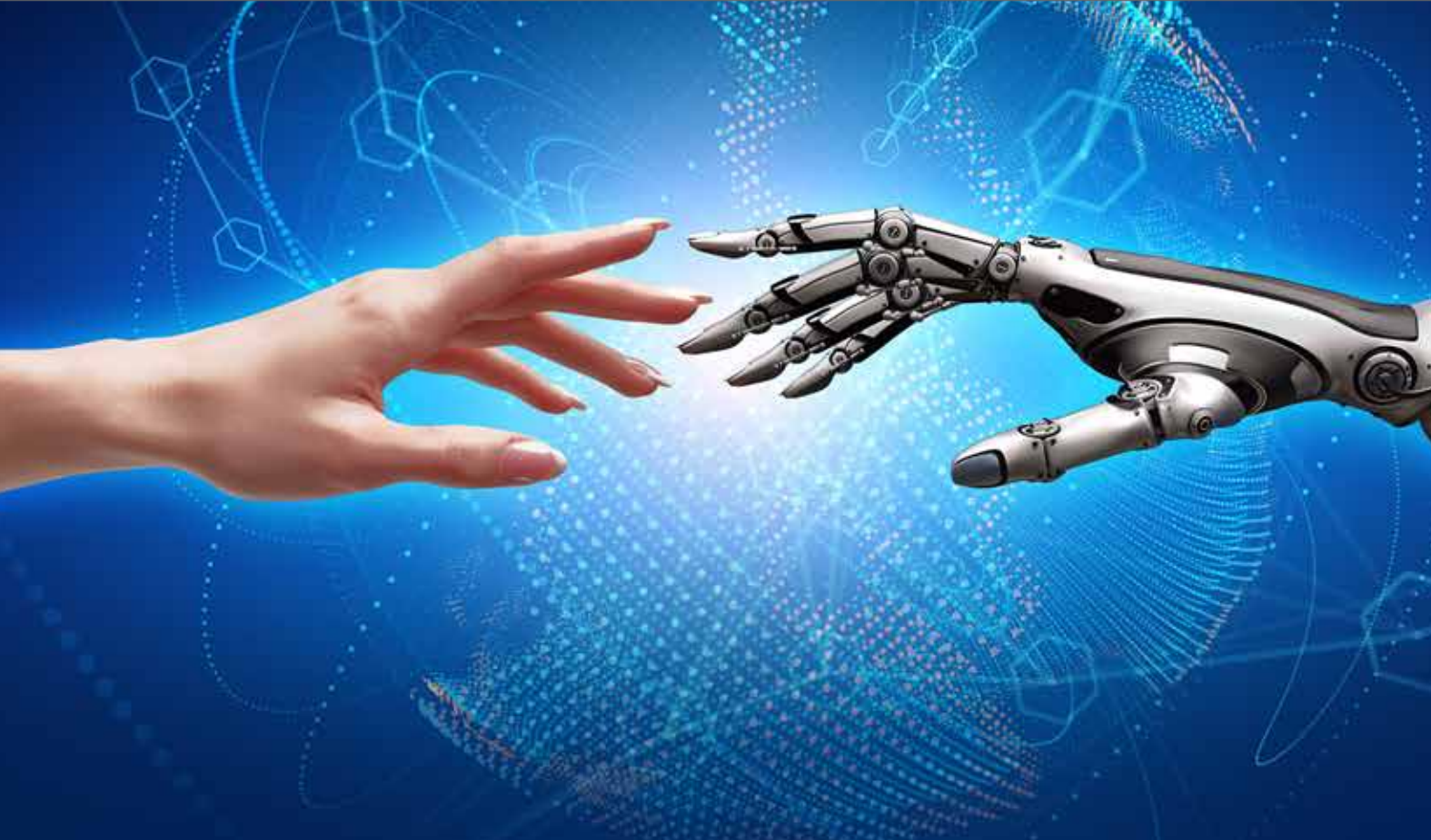
AI and cognitive technologies are actively reducing energy usage by helping data scientists, environmentalists and technologists gain a better handle on the environment.

FINANCIAL SERVICES

Financial Services firms are increasing their adoption of AI to capitalize on the data from new digitally driven channels. Investment banking firms are the leading adopters of AI and Machine Learning technologies in Financial Services, closely followed by Retail. Tasks driven by AI include reducing operational costs, improving decision making and scaling up employee capacity to handle volume-based chores.

NETWORK SECURITY

With AI, cyber threats can be detected much before they become costly. AI gathers insights and uses reasoning to identify the relationships between different threats, such as malicious files, suspicious IP addresses and insiders, protecting organisations from existing and emerging security issues.



Conclusion

Our fear of AI has been extremely misplaced, and the current reality demonstrates how it has become our trustworthy ally - with the capability to do things that humans can't.

At this juncture, some questions we need to ask ourselves are:

What will AI mean for our society?
How will we define humanity in the era of AI?
Will this change define us or create our future?

AI is poised to completely change the world, and by extension, what it means to be human. For the first time in history, we will have a technology that can do everything for us. From developing our careers to cooking our meals, from driverless cars to programming your next phone app, AI is a part of all of our lives. There is an enormous amount of potential for AI to change society to the betterment of all. If we harness this technology properly, we will be able to cure diseases, grow our economy and solve complex problems with unprecedented accuracy.

The age of AI is well and truly upon us.
It is up to us to decide where it leads.