Where will technology take us?

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In the past decades, technology has evolved to become a necessary part of our daily lives. It has been integrated into our society as a part of the process of evolution. The rapid change can be perceived as somewhat threatening, and at this rate of progress, there is no telling how much it will change in the next 10 years. This document will be investigating technology's current state, its impacts, and the future of our tech-driven world.

Current State/New Discoveries

Artificial Intelligence and Machine Learning

To be able to predict the future of technology, we must be able to study how it has changed the past and investigate its current state. Artificial Intelligence (AI) emerged as one of the driving factors that allowed technology to become what it is today. Artificial Intelligence refers to programs that aim to mimic human behavior by automating human tasks. (Frankenfield, Artificial Intelligence (AI), 2021) AI operates and learns just like a human would with its network of thousands of layers and connections programmed to learn how to execute a given task without human intervention. (Rajnoch, 2017) This group of layers and connections is called the deep neural network. Similar to how our brain's neurons receive input from the world that allows us to learn and function, machine learning is the process of using neural networks to observe and learn to be able to execute a task accurately. (Rajnoch, 2017) This technology created a new stream of inventions, such as self-driving cars, image recognition, speech/voice recognition, tools for medical analysis, programs to predict financial patterns, and a whole lot more. (Kaur, 2019) Anyone who possesses the knowledge and skills to develop an AI program has an immense power on their hands to potentially change the world.

The Rise of Social Media and Smartphones

Communication has evolved through the use of social media and mobile devices. The primary purpose of both is to keep us connected to our family and network of friends. Social media is also used for a broad range of activities such as sharing ideas, learning about a community, interacting with others through comments and discussions, and marketing a brand. (Thoughtful Learning, 2014) Mobile devices, also called smartphones, are essentially mini personal computers that fit in our pockets. It is used mainly for communication and entertainment, serving as a hardware platform for many applications. The emergence of this technology allowed for more advanced methods of communication. Through our smartphones, we can conduct business, stay up to date with current events, and use a plethora of tools and applications. Communication has especially evolved with the rise of social media. It has become a virtual world, a second life, especially to the younger generation. There is a culture that has been built around social media that made it immensely popular. It has become a gateway for our thoughts and opinions, and anyone can appear as anything. This type of freedom could seem promising. Although, despite all its freedom and convenience, there are also a lot of negative impacts. The most obvious disadvantage is that it is luring us away from face-to-face conversation. Although its main intention is to connect us to our family and friends, it actually takes our time away from them. During an interview with Elon Musk at Joe Rogan's podcast, he mentions that this type of wireless communication could potentially evolve into telepathic conversations in the future. (Snouwaert, 2020) He also mentions that social media can have negative effects on our mental health. (Wolfe, 2018) This is due to its ability to distort our perception of reality while engaging in a modified false identity. If social media continues to be used as a platform for living in false avatars, our communities in the future may all be based on

fake identities and the socially anxious who depend on likes and followers for their daily consumption.

Blockchain and Digital Currency

Another aspect of our lives that technology has changed is our currency. Our payment methods have been dramatically diversified. Money has been transformed into intangible digital currencies, stored in a virtual database called blockchain. Blockchain is a decentralized and distributed digital ledger that stores and records digital assets and transactions. (builtin, n.d.) It serves as a database for cryptocurrencies such as Bitcoin, the largest and most popular virtual currency up to date. (Frankenfield, What Is Bitcoin?, 2021) Digital currencies such as Bitcoin are stored in electronic wallets and can be accessed digitally or over the internet. You do not even have to own a physical wallet nowadays. The invention of this technology has allowed us to trade digitally over the internet. A potential advantage of digital currencies replacing cash is the better support of the concept of universal basic income, a set amount of payments made to the entire population regardless of their status of employment, aimed to alleviate poverty. (Reiff, 2019) Although, the transition between traditional to digital currency could pose a challenge to governments.

Modern Living

The modern civilization has advanced rapidly with the evolution of technology. Artificial Intelligence provided us an insane amount of new inventions that make our daily lives more efficient than before. Social media and smartphones have helped us connect globally and create a virtual space to engage in. Digital currencies have transformed traditional methods of payment. And as you engage in reading this document, there are lots of new technology being developed right at this moment that could potentially be the next big thing.

Global Impacts

Automation

Automation is the process of executing a task without human intervention. (IBM, n.d.) It is a result of Artificial Intelligence and Machine Learning. Most industries today are affected by robotic automation and AI, such as manufacturing, agriculture, transportation, etc. (Matthews, 2018)

Manufacturing Industry

Automating manufacturing processes has been the new standard for companies and organizations. Introducing AI to manufacturing operations helps in many ways such as waste reduction, ease of quality control, time-to-market reduction, cost reduction, etc. (Columbus, 2020) With the programmed accuracy of robotic automation and AI in assembly operations, waste from excess materials can be reduced, creating a more sustainable supply chain. Canon, a leading provider of digital cameras, introduced an AI system to track and control levels of quality in manufacturing centers. (Columbus, 2020) Nissan is another company implementing an AI system to reduce time-to-market for its next series of vehicle models. (Columbus, 2020) As mentioned, Artificial Intelligence has provided many benefits to the manufacturing industry, and as it continues to evolve, so will the industry.

Agriculture

Agriculture is another field that technology transformed. Productivity in farms have increased with the integration of AI, analytics, sensors, drones, etc. (Lutz Goedde, 2020) The integration of such technology have helped improve the quality and resilience of crops and enhance the well-being of livestock. (Lutz Goedde, 2020)

Transportation

There is a wide variety of ways one can do to travel from point A to point B. A simple application on your smartphone will tell you how to get to your destination, allowing you to plot and edit routes, as well as specify what public transportation vehicles to take. This application uses a Global Positioning System (GPS), a navigation system that receives data from satellites to pinpoint and synchronize a device's location. (Team, 2020) Even some of the cars we drive are equipped with this technology and more. Some of the newer models, such as Tesla, have built-in software systems for navigation and entertainment. Thanks to technology, travelling today is not a huge challenge anymore compared to how our ancestors walked hundreds of miles.

Moving Forward

Moving forward, we are going to investigate how these impacts could affect the future of our civilization. Professor Lon Appleby stated that the biggest force humans contend with is not power, not nature, not ourselves, but evolution. Change is inevitable. The truth is, we are not yet as smart as we think we are. Humans will evolve and so will the technology that we use.

The Future of Technology

Leaving Home

Companies like NASA and SpaceX lead the world in space exploration missions. On February 18, 2021, the world witnessed a monumental moment in human history. NASA's Perseverance rover landed on Mars. (NASA, n.d.) This signifies a beam of hope for our future, a future of leaving our home planet and becoming multiplanetary species. If NASA and SpaceX continue to push towards exploring the universe and potentially find a second home, in the next 100 years we may be able to occupy another planet.

New Ways of Communication

In a Joe Rogan podcast, Elon Musk stated that communication could evolve into telepathic communication. (Snouwaert, 2020) This means that we would be able to converse just by reading each other's thoughts. Transitioning from traditional conversation to reading each other's minds will take an extremely advanced software to be able to achieve this. However, we are not far behind towards heading that direction. Elon Musk's neuroscience company, Neuralink, aims to implant micro computer chips into the brain, helping to cure neurological conditions. (Reuters, 2020) Now imagine the same microchips embedded with the right software for telepathic conversation, or microchips embedded with Bluetooth that can connect to another microchip, hence allowing the two to transmit data between the links. Although this may not seem likely, it is possible. There are lots of new advances in technology today that we would not have imagined 100 years ago. This means that the future looks bright, but also incredibly unpredictable.

The Future of Artificial Intelligence

Artificial Intelligence could change the entire system of the world if it were integrated completely and developed into more complex problem solvers. As stated throughout this document, AI has the capacity to reinvent industries and provide many benefits to our daily lives. In the next 100 years, Artificial Intelligence is expected to provide us with many innovative tools and applications that will be necessary for the evolution of our species.

The Future

To be able to predict the future, we must be able to investigate the connection between our past and the present. Technology has evolved beyond comprehension and it seems to be only going forward every decade. There are always new developments or breakthroughs that some of

us could barely keep up. Technology has reinvented many aspects of our lives, such as communication, food, and daily tasks. It has also restructured many industries such as manufacturing, agriculture, transportation, and many others. The constant development and growth of technology will drive our species towards evolution without us even noticing. For the future of technology to look bright, the key lies in our own decisions. We decide where it is going to lead us into. We are responsible for its progress. The evolution of mankind is solely based on our decisions.

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