

ADVANCES IN COMPUTER TECHNOLOGY: FROM MECHANICS TO ARTIFICIAL INTELLIGENCE

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Abstract

The development of computer technology has undergone a significant evolution from the outset as a mechanical tool for calculating and storing data into systems capable of performing tasks with artificial intelligence. Digitization of data and processes has driven efficiency in various aspects of life, while the development of artificial intelligence enables machines to learn, adapt, and perform tasks that normally require human intelligence. The research method in this research is the study of literature by finding the theory in accordance with the context of penalty. The results of this research reveal that the development of computer technology has driven major innovations in a variety of fields, including industrial automation, development of autonomous cars, and the application of artificial intelligence in health. However, while these developments bring positive benefits such as improved efficiency and ease of access to information, there are also new challenges such as concerns about privacy and the impact of artificial intelligence on everyday life. The development of computer technology continues, and in the future we will probably see more innovations that will affect the way we live and work. It is therefore important to ensure that these developments are managed wisely, considering their impact on society and finding the right balance between technological progress and the general interest.

Keywords: Development, Computer Technology, Mechanics, Artificial Intelligence.

Introduction

Technological advances in human life have had a huge impact on various aspects of life. (Jabeen et al., 2024). Technological advances, especially communications technology and the Internet, have changed the way humans interact, work, and obtain information. Every innovation in technology is created to bring positive benefits to human life. A real example of technological developments that are often used in

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everyday life is in the field of communication and transportation (Moravec et al., 2024). The development of communication technology has enabled the creation of unhindered cross-border connections, while in the area of transportation, technology has revolutionized the way people and goods move from one place to another. (van Beurden et al., 2024).

With technological innovations constantly evolving, humans can experience ease in various daily activities and better efficiency. Technological developments open up new opportunities in a wide range of fields, from education, health, entertainment, to business. So is the development of computer technology.

Computer technology is evolving from ancient calculators to modern digital computers. It began in the 19th century with the development of early calculators and has since undergone significant advances in design and technology. These advances have led to the creation of five generations of computers, in which each generation builds on the innovations of its predecessors. (Quy et al., 2022).

One of the major milestones in the history of computer technology is the transition from non-Neumann architecture to parallel processing systems. This shift enables improved processing capabilities and paves the way for the development of fifth-generation computers. (Vyas et al., 2022).

In the early days of the development of computer technology, pioneers like Hollerith made significant contributions in this field. To date, computer technology has undergone remarkable advances in line with human development. (Kistermann, F. W. 2005).

Thus, computer technology has undergone tremendous progress, from mechanics to artificial intelligence. Mechanical technology is a technology that uses the principles of mechanics to produce a desired movement or to a specific goal. Mechanical technology has been in use since ancient times, such as a packing machine that uses the principle of knots and loops discovered by the ancient Greeks, Archimedes. (Hofstede, G. 2003).

During the 18th century, advances in mechanical technology advanced rapidly with the discovery of the steam engine by James Watt. (Spear, B. 2008). These steam machines are then used to move industrial machines, such as weaving machines and textile printers. In addition, mechanical technology is also used in the manufacture of machines such as cutting machines, paper machines, and sewing machines. Although mechanical technology is still in use today, it has been largely replaced by more modern technologies such as electronic technology and digital technology. (Miller, D. P. 2019).

In the development of mechanical technology, today there are many related research areas, among others: automotive technology, machine technology, manufacturing technology, and robotics technology. All these areas play an important role in industry and help improve production speed and efficiency, as well as produce better quality products. (Feynman, R. P., & Hey, T. 2023). Given these developments,

computer technology plays an important role in various aspects of human life, shaping the modern world as humans know it today. Rapid advances in computer and information technology have revolutionized communication, business, and everyday activities.

Meanwhile, the concept of artificial intelligence (AI) first appeared in 1956 at the Dartmouth Conference. (Wooldridge, M. 2021). In the early 1900s, figures like Charles Babbage and Ada Lovelace had created analytical machines that were considered to be the future cycles of more sophisticated computer concepts. (Barrat, J. 2023). In the 1950s, John McCarthy and Marvin Lee Minsky launched the idea of using mathematical logic to build more complex AI systems (Lavrichenko, M. 2022). In the 1960s to the 1970s, there was rapid progress in AI development, in which researchers succeeded in developing intelligent systems that could play chess games and solve mathematics problems. Such rapid AI progress then slowed down in the 1980s and 1990s, where researchers failed to develop more complex IA systems (Nietering, P. 2021). AI today has been applied in a variety of fields, such as voice recognition, natural language processing, robotics, and image and video recognition. (Comer, A. C. 2020).

This long journey marks the evolution of computer technology that has affected major transformations in the way we work, communicate, and interact with the world around us. Computer technology has evolved from simple mechanical methods to sophisticated artificial intelligence capabilities. These developments not only include innovations in hardware and software, but also reflect how humans continue to strive to create more efficient and intelligent technological solutions. (Worth et al., 2024).

Through an in-depth understanding of the history of computer technology development, we can understand how important the role of this technology is in driving the progress of society and changing the paradigm of human life. By looking back at the journey of computer technology over time, we can give a deeper appreciation for the innovative contribution in the field of computer technologies and reflect on the direction of future technological developments.

This research, to describe the journey of computer technology development from the mechanical era to the era of artificial intelligence, as an attempt to explore the crucial turning point and the impact it brings. Hopefully through this research, we can gain a broader and deeper insight into the evolution of computer technology that has shaped the modern world as we know it today.

Research Method

The study of this research is using the study of literature. Literary research method is a method of research carried out by conducting an examination or analysis of written sources related to the subject being studied. The objective is to gather, explain, and synthesize information and data related to research topics (Campbell, 2014; Thorne, 2013; Boddy, 2016).

Resources that can be used in literary research methods include books, journals, papers, reports, articles, and other documents related to the research topic. This method is often used in research that focuses on the explanation or description of a particular phenomenon and in academic or scientific research. (Christensen et al., 2011; Lancaster, 2007; Gliner et al., 2011).

Result and Discussion

The Early Age of Computer Technology

The development of computer technology has undergone significant progress since the invention of the first computer. The early days of computer technology began with the invention of the computer by Charles Babbage in 1822. Babbage created the Difference Engine, a calculator that uses steam power and is able to calculate the numerical table (Wu et al., 2024). (Mohite et al., 2024). This machine is designed to perform complex mathematical calculations automatically, especially in the production of table numbers. The Difference Engine operates on the principle of numerical differentiation, in which the machine uses the differences between numbers in a sequence of numbers to produce more complex solutions. This machine uses a tooth wheel and a lever to perform calculations millions of times faster than manual calculations. (Swade, D., & Babbage, C. 2001).

Babbage designed the Difference Engine in 1822, but unfortunately the machine was never finished at the time. The larger project, the Analytical Engine, which is a more complex device with programmable features, has never been completed either. Although the Difference Engine and Analytical Engine were not built successfully at the time, the concepts introduced by Babbage formed the basis for the development of modern computers. Babbage is considered the "father of computers" for his advanced and innovative vision of developing automatic calculators. (Manners, I., & Whitman, R. 2003).

The original Difference Engine, according to Babbage's design, was built by the Museum of Science in London in 1991-2002 using technology and materials available at the time. This machine is successfully operated and proves that Babbage's ideas can be realized into working machines. (Gupta et al., 2010).

Since then, the Difference Engine has become an important milestone in the history of computer development and a proof of the basic concepts of the calculating machine that form the basis of modern computing devices.

Over time, advances in computer technology have produced different generations of computers. In its history, there have been some important points such as the discovery of ancient calculators such as Abacus used for everyday calculations, as well as the emergence of modern computers using digital technology.

The development of computer technology also brings innovations such as the advent of quantum computers, which use the principles of the quantum mechanics to

perform faster and more powerful computations than conventional computers. (Franksen, O. I. 1981).

Thus, the conclusion of that invention and to this day is known to computers. A computer is an electronic device that can receive, process, store, and output data automatically. In a general sense, a computer consists of physical components such as processors, memory, storage, and input/output devices used to perform computational tasks. (Gill et al., 2024).

Computers work on instructions given by users or programs written in programming languages. The processor in the computer is tasked with performing complex mathematical and logical operations, while memory is used to store data and instructions accessed by the processor. Data and programs can be stored in storage such as hard disk, solid-state drive (SSD), or other storage media (Sharopova, M. 2024).

Computers have the ability to process data in a variety of forms, from text, images, sounds, to video. In the digital age, computers can also be connected through networks allowing users to communicate, share information, and access distributed resources. (Jansson et al., 2024).

Computers have a variety of types and sizes, ranging from personal computers used by individuals, to servers used by large corporations to store and manage data. Besides, there are also mobile computers like laptops, tablets, and smartphones that have high mobility. (Ajani et al., 2024).

In its development, computers have undergone significant evolution, both in terms of performance, size, and application availability. From large-scale computers such as mainframes and supercomputers, to computers of small size such as wearable devices such as smartwatches, computers have played an important role in many aspects of modern life, such as education, business, industry, science, and entertainment. (Daixin et al., 2024).

Computer Mechanics Development

The development of computer mechanics refers to the evolution of mechanical counting machines in the history of computing. One of the first mechanical counting machines was Pascaline, discovered by Blaise Pascal in 1642. It's a mechanical device that can do aggregation and reduction. Another famous mechanical counting machine is the Difference Engine, designed by Charles Babbage in the early 19th century. These machines form the basis for the development of mechanical computing. (Maschietto, M., & Soury-Lavergne, S. 2017).

Here are some milestones in the development of computer mechanics: 1) Abakus. Abakus is one of the earliest forms of computer mechanics discovered. The abacus consists of a series of rods and beads that are moved to perform simple arithmetic calculations. The Difference Engine is one of the most famous innovations in the development of computer mechanics. Charles Babbage designed this machine in

the 19th century to perform complex mathematical calculations. The machine uses a tooth wheel and a lever to make calculations based on the differences between the numbers. The Analytical Engine, also designed by Charles Babbage, is a development of the more complex Difference Engine. The machine has programable features that allow it to be used for more general computational tasks. The machine also uses a card system that was the precursor of the computer programming concept. 4) Punched Card System - In the late 19th and early 20th centuries, mechanical computers used hole cards as data input and output methods. Hole cards contained information in the form of hole drilling on a card sheet, which was then read by machines to carry out calculations. 5) Hollerith Tabulating Machine - The Hollarith tabulating machine, developed by Herman Hollerath in the late 19th century, uses hole cards as a data input method. The machine was used to process census data in the United States, and was a precursor to the development of modern electronic computers. (Touretzky, D. S. 2015; Soury Lavergne, S., & Maschietto, M. 2015).

In its development, advanced mechanical calculators experienced increased efficiency, complexity, and scale. Later, advances in electronic technology replaced computer mechanics with faster, more efficient, and more flexible electronic computers in computing tasks.

Vacuum Tube Usage

A vacuum tube is an important electronic component used in the history of computing. It was one of the key technologies in the development of computers at the beginning. (Hu et al., 2023).

The vacuum tube is used as a major element in the first generation of computing machines such as the ENIAC (Electronic Numerical Integrator and Computer) developed in the 1940s. (Kang et al., 2023).

However, although vacuum tubes provide significant advances in computing, they also have limitations. The vacuum tube tends to be hot, large, and prone to failure. Besides, they require enormous power and often need to be replaced periodically.

Later, computer technology evolved with the replacement of vacuum tubes by transistors, which were smaller, more reliable, and more power-efficient. This enables the development of faster and more efficient computers in the next generation. (Grado et al., 2023).

Transistor era

Transistor development

The era of transistors began with its invention in 1947 at the Bell Labs by William Shockley, John Bardeen, and Walter Brattain. Transistors revolutionized the world of electronics and played an important role in the development of modern technology. Unlike a vacuum tube, a transistor is a semiconductor device with at least three

terminals that control the current flow between the other two terminals. They are smaller, more reliable, and more efficient, making them ideal for use in electronic devices (Cao et al., 2023). Transistors bring significant advances in a variety of fields, enabling the miniaturization of electronic components and the development of more powerful and efficient computers. With the introduction of transistors, computers became smaller, faster, and more reliable than their predecessors with vacuum tubes. It produced great advances in computing technology and formed the foundation for the information age. (Tong et al., 2023).

The impact of transistors can be seen in various aspects of everyday life. They are the fundamental building blocks of modern electronic devices such as smartphones, tablets, televisions, and radios. Transistors allow the development of integrated circuits, which further enhance the power and capabilities of electronic devices while reducing their size and cost. (Chouhdry et al., 2023).

Overall, the transistor era marked an important milestone in the history of technology, opening the era of electronic advancement that continues to shape our lives to this day.

Since the transistor has evolved, it has become an important milestone in the field of electronics. Before the invention of transistors, engineers relied on vacuum tubes and electromechanical switches to complete the electrical chain. However, these vacuum tubes have limitations, such as the need for heating before use and producing excessive heat.

Over the years, transistors have undergone significant development and improvement. The introduction of a high-frequency transistor by PHILCO (Philadelphia Storage Battery Company) is an important development in transistor history. The transistor has better capabilities and is used in radio, battery, and television production. Innovation and continuous improvement have shaped transistor development, with each development bringing some compromises. Transistors have become a fundamental building block in modern electronic devices such as smartphones, tablets, televisions, and radios. (Thangavel et al., 2023).

Integrated Circuit Usage

Integrated Circuit (IC) is a complex electronic network that is integrated into a small chip. IC is better known as a chip or microchip. (Iwai, H., & Ohmi, S. I. 2002).

Main uses of ICs: 1) Consumer Electronics: ICs are used in a variety of consumer electronic devices such as smartphones, televisions, digital cameras, portable music players, and other audio/video devices. ICs help in signal processing, sensor reading, and device control. 2) Computers and Storage Devices: ICs are used in computers and storage devices such as processors, memory, and disk controllers. ICs in processors are used to control and process data quickly and efficiently. 3) Communications: ICs are used in communication devices such as cell phones, routers, modems, and other

network equipment. 4) Automotive: ICs are used in automotive electronics such as fuel injection systems, electronic brakes, infotainment systems, and vehicle sensors. ICs help improve vehicle performance, safety, and efficiency. 5) Industry: ICs are used in a wide range of industrial systems such as automated control, robotics, data processing, industrial sensors, and measuring devices. ICs allow accurate control and monitoring in a variety of different industrial environments and applications. 6) Health: ICs are used in medical devices such as diagnostic instruments, patient monitors, implantable devices, and hearing aids. ICs allow accurate collection of medical data and the delivery of signals needed in the medical world. 7) Energy: IC is used in a variety of energy applications such as solar cells, power control, electricity distribution systems, and improved energy efficiency. IC helps manage resources and control in complex energy systems. (Rabaey et al., 2022; Gray et al., 2024).

ICs have transformed the electronics industry by enabling smaller, more efficient, and faster devices to be used. The ability to integrate thousands of transistors into a small chip makes the IC an essential element in a variety of electronic applications.

Microprocessor era

Microprocessor development

The development of microprocessors has played an important role in the technology and computing industries. Here are some of the major developments in the history of microprocessors: 1) The Intel 4004 Microprocessor: In 1971, Intel introduced their first microprocessor, namely the Intel 4004. This microprocessor has a 4-bit architecture and is capable of running instructions at 740 kHz. Despite its limited performance, it is an important milestone in the development of modern microprocessors. 2) Intel 8080: In 1974, Intel launched the 8080 microprocessor, which is a member of their second-generation processor. It uses an 8-bit architecture and runs at 2 MHz speeds. It has been used in many devices, including personal computers such as the Altair 8800, which is considered the first personal computer. 3) Intel 8086: In 1978, Intel introduced the 8086 microprocessor, which was the early result of the x86 architecture that later became the standard in personal computers. 8086 has a 16-bit architecture and operating speeds of up to 10 MHz. 4) Intel Pentium Microprocessors: In 1993, Intel introduced the Pentium microprocessor, which is their fifth generation x86 family of microprocessors. Pentium have significant improvements in speed and processing capabilities compared to its predecessors. 5) Current microprocessors: Currently, microprocessors continue to undergo rapid development. Modern microprocessors have increasingly complex architectures, such as Intel Core i5 or AMD Ryzen, with many processor cores for better performance and processing capabilities. In addition, technologies such as hyper-threading and turbo boost have also been introduced to improve the performance of the microprocessor. (Zhu et al., 2024; Thopate et al., 2024).

Developments like this in microprocessors have enabled significant improvements in processing speed, memory capacity, and computer system capabilities in general. These more powerful and efficient microprocessors have been the basis for technological developments such as cloud computing, artificial intelligence, the Internet of Things (IoT), and more.

Personal Computer Usage

Personal Computer (PC) has become a very common device used in a variety of environments, from households to business environments.

Here are some of the main uses of PCs: 1) Productivity: PCs are used for productivity tasks such as word processing, spreadsheets, presentations, and email management. In a business environment, the PC is used to create documents, analyze data, manage inventories, and handle other administrative tasks. At home, PCs help with document printing, financial settings, and other household tasks 2) Communication: PCs enable efficient communication through email, instant messaging, and video calls. In business environments, PCs are widely used to host remote meetings and team collaboration. At home, PC's are used to communicate with friends and family through social media platforms or instant messenger apps. 3) Entertainment: PCs are used for entertainment such as watching movies, listening to music, playing games, and browsing the internet. Many people use PCs to access streaming content, edit photos or videos, or play games through online platforms. 4) Education: PC has an important role in education. PCs are used by students and teachers to access and manage learning materials, conduct online research, create presentations, and follow online learning. The PC also supports the development of critical thinking and creativity through educational applications and software. 5) Design and Creativity: PCs are used in the graphic design, animation, architecture, and other creative industries. Specialized applications such as Adobe Photoshop, Illustrator, AutoCAD, and others are used to create complex visual designs. In addition, the PC is also used by hobby beginners to develop graphical design skills and creative media. 6) E-commerce: PCs are used as a tool for online shopping. Users can browse online stores, select products, make payments, and track shipments using PCs. e-commerce has facilitated extensive accessibility of products and services (MacKenzie, I.S. (2024; Kumar et al., 2024).

PC usage continues to grow with technological advances. With a powerful PC connected to the Internet, users can perform a variety of activities involving communication, productivity, entertainment, and learning.

The Internet era and mobile computing

The development of the Internet

The Internet is a global network consisting of interconnected computer networks, enabling communication and sharing of information. The Internet came from

the efforts of scientists and engineers to build and connect computer networks. (Liang, B., & Lu, H. 2010). The Internet has evolved over time, from the development of the Internet Protocol Suite to the emergence of the World Wide Web (www) and the spread of mobile devices, which have accelerated its use and connectivity. (Home, S. I. F. T. 2021).

The development of the Internet has become a very important historical milestone for humanity. Starting with military projects, the Internet has now become a global communication and information medium. From the introduction of email and the World Wide Web (www) to the advent of search engines like Google and the emergence of social media, the Internet has become an integral part of modern life. (Home, S. I. F. T. 2021).

The history of the Internet can be traced from research and development in the United States, with international collaboration playing an important role in its development. The Internet has revolutionized mass communication, mass media, and trade by enabling various computer networks around the world to interconnect. The history of the Internet in Indonesia also shows remarkable progress. It encompasses the introduction of the Internet, its evolution to www, and its widespread use as a medium of communication and information. The proliferation of mobile devices has further accelerated the use and connectivity of the Internet (Home, S. I. F. T. 2021).

The Internet has become an important tool that connects people of all ages and backgrounds in real-time, enabling smooth global communication. The impact on society and the way we live, work, and interact is evolving. The Internet has become an important tool that connects people of all ages and backgrounds in real-time, enabling smooth global communication.

Using Moving Computing

Mobile computing is the concept of using computer technology and wireless networks to provide services and access to information to users wherever they are. In mobile computing, computer devices such as smartphones, tablets, and laptops can be connected to a wireless network such as a cellular network or Wi-Fi to access the Internet and the various services available (Satyanarayanan, M. 2011). Use of mobile computation can include a variety of things, among others: 1) Internet access: Through mobile computer, users can access the internet freely and flexibly anywhere they may be. 2) Communication: Users can make voice calls, send text messages, or use an instant messaging application to communicate with others through wireless Networks. 3) Mobile applications: users can download and use various mobile applications to meet everyday needs, such as social media applications, games, productivity apps, or financial applications. 4) E-commerce: Mobile computing allows users to make online purchases and use mobile-based payment applications. 5) Navigation: With the help of maps and navigation applications, users can find directions, search for specific locations, as well

as know traffic information on the go. 6) E-learning: Moving computing enables access to online learning platforms, making learning more flexible and accessible. 7) Mining and Logistics: In industry, mobile computing is used to optimize supply chains and supply management using barcode technology and mobile devices. 8) Internet of Things (IoT): Moving computing is becoming crucial in the development of IoT, which allows connected devices to communicate and exchange data through wireless networks. (Talukder, A., & Yavagal, R. 2006).

The use of mobile computing continues to grow as technology develops and user needs. It has changed the way we access information, interact, and perform various activities in everyday life.

The Age of Artificial Intelligence Artificial Intelligence Development

The development of Artificial Intelligence has made significant progress in recent years. AI refers to science and engineering in creating machines that are intelligent and capable of performing tasks that normally require human intelligence. The concept of AI was first introduced by a young mathematician and philosopher named Alan Turing in 1947 after World War II. (Zhai et al., 2021).

Advances in AI have produced applications and technologies that are transforming many aspects of modern life. For example, AI-supported apps like MyHealth Diary that are integrated with smartwatches can record daily activities such as the number of steps and heartbeats. Another striking development is ChatGPT, a language model that has gained popularity and sparked discussion around artificial intelligence and its abilities. (Vaishya et al., 2020).

However, there are concerns about the risks associated with the rapid development of AI. Some experts worry that AI can be used in ways that are detrimental to society. Despite these concerns, the field of AI continues to grow, with research and progress continuing in various industries.

Overall, progress in AI development has been very significant, and its impact on various aspects of life cannot be ignored. It is important to keep track of developments and ensure that ethical considerations can be overcome to maximize benefits and minimize the risks associated with this technology. (Makridakis, S. 2017).

Thus, Artificial Intelligence (AI) is the science and engineering that aims to create machines or systems that can mimic, understand and perform tasks that normally require human intelligence. AI involves creating algorithms, programming, and using data to enable machines to make decisions, learn from experience, and adapt to new situations. The primary purpose of artificial intelligence is to produce machines that can perform complex tasks efficiently and accurately, thus providing benefits to humans in various industries and fields of life.

Artificial Intelligence Applications

Artificial intelligence has been used in a variety of applications and industries. Here are some examples of famous AI applications: 1) Virtual Assistant or Chatbot: AI has been used in the development of virtual assistants or chatbots that can provide intelligent and interactive responses to users. Examples are Apple's Siri, Google Assistant, and Amazon's Alexa. 2) Voice recognition and natural language processing: AI technology is used to enable machines to understand and interact with humans through natural voice and language. 3) Business Process Automation: AI can be used to automate repetitive and time-consuming business processes, thereby increasing efficiency and productivity. For example, the use of AI in data processing, inventory management, or employee recruitment. 4) Pattern recognition and anomaly detection: AI can be used to recognize patterns in big data and detect anomalies or errors. Examples are facial recognition, identification of vehicle number plates, and fraud detection in financial transactions. 5) Autonomous Cars: AI plays a key role in developing autonomous cars or self-driving cars. Through intelligent sensors and algorithms, autonomy cars can drive themselves, adapt to their surroundings, and make safe decisions during travel. 6) Health diagnostics: AI can be used in analyzing medical data to help diagnose diseases, monitor patient conditions, and recommend treatment. Examples of applications are tumor detection in medical images or analysis of genetic data to predict disease risk. 7) Trade and Finance: AI is used in stock trading, financial risk analysis, and market prediction. Intelligent algorithms can analyze market data, predict trends, and provide investment recommendations. (Hassani et al., 2020; Dwivedi et al., 2024; Sangers, T. E. 2023).

These are just a few examples of popular AI applications. AI development continues, and there is huge potential for AI applications in a variety of fields such as robotics, manufacturing, agriculture, and more.

Conclusion

The evolution of computer technology from mechanics to artificial intelligence is as follows: first, Evolution: Computer technology has undergone a significant evolution since it was initially used as a mechanical tool to compute and store data into systems capable of performing tasks similar to human intelligence. Second, Digitalization: The development of computer technologies has enabled data and processes to be digitized more efficiently. It has changed the way we work, communicate, and access information. Third, Artificial Intelligence: One of the greatest achievements in computer technology development is the development of artificial intelligence. AI enables machines to learn, adapt, and perform tasks that normally require human intelligence. Fourthly, Innovation: The development of computer technology has also driven outstanding innovations in a variety of fields, such as industrial automation, the development of autonomous cars, the application of AI in health, and more. Fourthly,

Social Impact: The development of computer technology has had a major impact on society. It has brought positive benefits, such as improved efficiency and ease of access to information, but also poses new challenges, such that concerns about privacy and the influence of AI in everyday life.

The development of computer technology continues. In the next few years, we may see more innovations and developments that will affect the way we live and work. This development also needs to be managed wisely, balancing between technological progress and its impact on society.

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