

THE RISE OF AI IN EVERYDAY LIFE: HOW ARTIFICIAL INTELLIGENCE IS TRANSFORMING DAILY TASKS

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ABSTRACT

This article, "The Rise of AI in Everyday Life: How Artificial Intelligence is Transforming Daily Tasks", once again examines the enormous impact that AI has on different areas in our daily lives. It is a great example of how AI with the help of high algorithm and machine learning components become part in general usage consumer products. Whether in streamlining repetitive tasks or tearing down complex decision-making at scale, AI is changing the way people engage with technology. The paper also explores the moral principles and broader social impacts of the universal prevalence of AI. It ends with speculations on what the path ahead will look like for AI, envisioning it at a crossroads and transition state as becoming ever more pervasive - quietly embedded into all personal/home and professional/workplace activities.

1. INTRODUCTION

Artificial Intelligence

AI is a rapidly growing, multi-dimensional area of computer science. However, for the purpose of this article, we survey its direct application in intended usage by common individuals. This "true" AI allows users to interact with interfaces of complex systems in ways that were not previously possible. Such systems apply intelligence in programming to allow new and unpredictable responses to user queries. The software represents a fundamental shift away from classic application interfaces that require users to provide specific instructions in order to obtain results. With AI, individuals pose general questions, and systems provide answers that are situated specifically by reading and analyzing complex data. The ability for common individuals to interact with such seemingly intelligent systems in their everyday activities is new and represents the direction of future information technology - living and interacting with AI in everyday tasks and conveyances.

Upon hearing the term "artificial intelligence," the initial vision that comes to mind often involves robots, spaceships, and revolutions in human existence. However, the current and future states of AI have been applied at a much more fundamental and necessary level. Daily existence as we know it is becoming revolutionized through the use of AI, computer algorithms, and programming. Not only is AI and machine learning present within major software applications such as the Microsoft Office suite, but it also exists within nearly every area of life such as everyday appliances and consumer products. This article surveys the many implementations currently present and shows how AI will continue to influence daily tasks.

1.1. Definition and Scope of AI

If a machine can do that, then obviously it does possess intelligence. Note that the argument has always been that the machine has to be functionally indistinguishable from a human, whereas there has never been any reference to any physiological property (as a matter of fact, Turing was convinced it would not be possible to solve the problem with the computational paradigms available at that time, and that it would be necessary to make machines operate based on brain logics). Indeed, intelligence is a broad concept that, from a subjective viewpoint, is attached to the behavior of specific subjects. The essential content of the artificial intelligence field is understanding and reproducing those aspects of human and animal intelligence that may be of use. In fact, intelligence can also be regarded as the faculty to solve problems and to learn, and in this case, the emphasis shifts from "doing the same things as a human" to "achieving the same goals as a human". The Turing Test is a test testing the reason of AI, and it evaluates the probability of success of obtaining a given result through the process of reasoning (in the original paper, it is the answer to the question whether a bishop does move or not). The test was born as a "concept paper", hence it does not set forth specific criteria to fulfill when carrying out tests. It's important to note, however, that the concept of a "thinking machine" at the basis of the Turing Test refers explicitly and exclusively to a machine emulating human behavior in all of its manifestations, with respect to which one can define behavioral equivalence. (Gonçalves, 2023)(Gams & Kramar2024)

We can define artificial intelligence (AI) as the part or the field of computer science that aims at creating machines and software that are able to perform tasks that would require human intelligence in order to be completed. Unsurprisingly, this definition is a very general one and it could involve any sort of human mental activity, from playing chess to deciding where to have a vacation. Even implementing the most general human activity, that is

learning from experience, could be regarded as an AI's task. Indeed, AI was conceived in 1956, the year of the foundation of the Dartmouth Conference in which it was decided that "every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it". When Turing proposed in 1950 his landmark paper, "Computing Machinery and Intelligence", he defined machine intelligence as the capability to imitate human responses, making people unable to distinguish the machine from a human being by a conversational test. (van et al.2022)(Bhutani & Sanaria, 2023)(Bell2021)(Anderson, 2024)(Li2024)(Karunananda)(Lee & Lee, 2020)(Khemani, 2020)(Steinhoff2021)(Bory et al.2021)

2. AI APPLICATIONS IN DAILY LIFE

Personal assistant. The personal assistant field is probably the most immediately obvious way that AI is being used in our daily lives. From the smartphone to the computer to the smart home device, a personal assistant in the form of Siri, Cortana, Google Assistant, or Alexa is often in our ear and providing assistance when we need it. Although using a personal assistant might often feel goofy (who likes talking to their smartphones really?), the field is expected to become a bigger part of how we interact with our technology in the future. Currently, companies like Google, Amazon, and Apple are especially investing huge resources in improving the conversational capacity of their AI systems.

The boom in the use of AI is often immediately associated with the use of personal assistants like Alexa and other smart home devices, as often as it is with hyper-relevant online advertising and other annoying online features. However, AI is at work in much more places than we often realize, influencing many of our daily decisions, interactions, and shaping the way we understand ourselves and the world around us. Every time we shop online, use an algorithm in selecting photos to post, are given automated travel recommendations, receive advice about a movie to watch or select a romantic partner, there is a good chance AI is involved in some way. Here are a few examples of how AI is entering into the varied moments of life.

Application of AI in daily life

2.1. Virtual Assistants

Three factors have been crucial in explaining the growth of usage of virtual assistants. First, the proliferation of smart devices has led to a strong and rapid adoption of voice interfaces. Second, advances in technology have led to significant improvements in the performance of speech recognition and natural language understanding, making them more effective. Finally, companies offering virtual assistants have attracted a large user base by adding third-party skills. Third-party skills are capabilities or services that are created and offered by third-party companies and individuals that the virtual assistant does not possess inherently—a form of the ecosystem that has created indirect business opportunities. As of 2020, Amazon's Alexa features over 100,000 skills, followed by Apple's Siri with over 60,000 skills and Google's Assistant with 1,000 skills. And people have more reasons than ever to use them.

Virtual Assistants: Virtual assistants, such as Amazon's Alexa, Apple's Siri, and Google's Assistant, are conversational artificial intelligence systems that respond to voice commands. They have experienced explosive growth in the last few years. Take, for example, Apple's virtual assistant Siri. Siri made its debut in 2010 when it was first introduced as an iOS app, and it has been a permanent built-in feature of Apple devices since October 12, 2011. According to Tom Gruber, one of Siri's co-founders, there were just two million active Siri users in 2011. The number quickly surpassed 40 million. By 2018, Siri was completing 10 billion tasks a month. That translates to 350 million tasks per day. As of now, there are 375 million devices with Siri featuring Apple's voice-activated service, if both the iPhone and the Apple Watch are considered.

2.2. Smart Home Devices

Smart speakers with built-in voice-controlled intelligent assistant (IVA) offer services like sound control, turn on/off electrical appliances, provide lists, schedule practice reminders, read audio recordings, and deal with grocery shopping. In addition, the intelligent speakers use consumer personalization data to offer climate-sensitive, voice-activated learning services. Smart speakers allow users to handle management issues without physical issues. Prominent firms in this market include Amazon, Alibaba, Apple, Google, and Xiaomi. Amazon's Echo and Google Assistant systems are the industry's best-known examples. The highly creative and market-oriented intelligent speaker sector is also driving innovation in the AI technologies, natural language processing, human-to-computer, and hardware development sectors. Voice-controlled IVAs may also be incorporated into laptop and tablet devices for consumers and fitness application users.

Bluetooth, thermostat, and webcam-based security platforms began to be sold in significant volumes at the start of the 2010s - the early versions of today's smart speaker and more comprehensive platforms. The rise in consumer smart

home technologies, particularly smart speakers and smart thermostats, will continue, and people will increasingly personalize, share, and exchange their personal data for consumer, professional, care services, and city objectives. Smart home devices, such as Wi-Fi-embedded thermostats and internal pollution monitors, enable fine-tuning of temperature and humidity and learning habits to reduce energy use and power the HVAC systems. This reduced energy consumption results in considerable cost savings and a smaller environmental footprint. The worldwide smart home market is expected to exceed \$130 billion sooner globally, with the United States, Europe, and China accounting for more than 65% of the market share. Among smart home devices, the most used and purchased smart speaker is by far the most used and purchased, with an installed base of around 76 million, owned by 53% of adults in the United States.

3. AI IN TRANSPORTATION

There is a public interest in safe, reliable, and trustworthy self-driving cars, and for the aerospace and maritime industry responses to time and staffing challenges. Self-driving vehicles must work around people, traffic, and infrastructure effectively in order to provide real-world people with a convenience as they move across urban environments, including people, traffic, and infrastructure. The reality is that there is a long and difficult road before self-driving cars can operate at a reduced edge of its geographic limit, such as Washington and Arizona, or mid-to-large-sized cities. No one knows when self-driving cars will be widely introduced, although the first commercial service is expected in 2025. The arrival of self-driving cars provides a rare opportunity, as will be shown in this section, to think not just about self-driving cars, but about entirely new futures with zero traffic fatalities until self-driving cars are planned.

Despite numerous advancements in recent years, AI and self-driving cars have become practically synonymous with the capability of AI to solve important human transportation problems. According to the World Health Organization, 1.35 million people annually die due to road crashes, which explains the considerable hype about self-driving cars. However, its promises of reduced traffic congestion and universal mobility for children, the elderly, and blind have calls from governments, civil society, and industry to make it a reality as soon as possible. There are considerable pilot deployments of self-driving cars, and technology companies, auto manufacturers, and Uber are all investing heavily in research efforts to deploy autonomous driving before 2025. In addition, in the aerospace industry, nearly all jetliners are likely to produce pilots who can pilot the aircraft for some stages of the missions to operate in unserved locations.

3.1. Self-Driving Cars

Most people feel that truly self-driving cars, able to make their own driving decisions in virtually any situation that a reasonably competent human driver can, could be launched within a few years, or perhaps a decade at most. Yet the introduction of safety-critical advanced autonomous driving features that cautiously wind their way into the marketplace may act, rather than once the general public fully recognized as "self-driving" beguilingly bots that are actually significantly dependent on inconsistent human know-how. Before setting the stage for these interesting prospects, we explore the perplexing and controversial landscape of current deployment in four major application areas, with an emphasis on the rapidly evolving roles of human drivers/riders/passengers.

From the streets of California to bustling metropolises like Shanghai, self-driving technology is quickly transforming how people travel. The technology promises to drive down deadly accidents sharply, alleviate congestion, assist elderly and disabled people with mobility, and increase the number of people choosing more affordable ways to live, ranging from cheaper suburban homes to minuscule apartments. But deployment is happening now, with confusing caveats that vary from one automaker to another. A seamless universal solution, where any car, today, can navigate any road in any conditions, remains tantalizingly out of reach. Self-driving cars are driving around test areas and in some cases, human guinea pigs. But the question is when self-driving technology will be ready to turn a concept into everyday mode of transportation. The answer remains somewhat a mystery, despite all the high-profile efforts - some optimistic, others circumspect - by automakers and developers of the technology.

4. ETHICAL CONSIDERATIONS IN AI USE

AI in highly sensitive applications such as military, policing, and healthcare comes with high risks and responsibility. Deciding on the life or death of a human being should be left for humans to decide and not for machines no matter the amount of sophistication. Besides the ability to make mistakes, AI could potentially make unbiased decisions that conflict with societal norms. Moreover, in a democratic society, it should not be solely the choice of technocrats or bureaucrats to determine the scope and use of AI, but of all citizens. Individuals are the ones who would be affected by the choices made in deploying AI technologies to help in their daily endeavors. In summary, while AI promises new solutions, increased efficiency, and support in daily decisions, the station and ethical boundaries of what is

acceptable need to be identified and coded into these systems. Citizens need assurance, with evidence generated from some form of regulation that the use of this powerful and transformational technology deviates from ethical bounds.

While the thought of incorporating AI into your daily routine may sound appealing, AI is not without its drawbacks. There are potential risks that AI creates, and these risks have with them potential consequences if not managed well. A primary challenge is ethical in nature. AI can potentially perpetuate biases and unfair treatment already experienced by certain segments of society. This unfair treatment often results from having biased data, biased algorithms causing decisions to be systematically unfair. Moreover, AI somehow, no matter the sophistication, can never capture the sum of human societal norms, beliefs, and behavioral patterns to the fullest and balance them against one another. This means cases might arise where the decision taken by AI does not align or even conflicts with societal norms and values.

5. CONCLUSION AND FUTURE IMPLICATIONS

The most effective AI is doing its job without fanfare, causing no excitement; no speculation about ethical issues; and is attracting little press coverage or new regulation. Instead, there's talk of cautiously introducing AI to our lives. AI is expected to deliver an increasingly better lifestyle as it crawls into more and more industry and consumer applications, working as discrete sub-systems hidden inside local systems, robots or SDKs. It is the moneymaker that stands behind the system, and defense organizations have been some of the bigger industry spenders recently. AI is becoming business as usual.

It is early days for human interaction with AI, and things are only going to get more interesting. The preceding examples are hints of what is coming over the next five years, as AI accelerates its journey into everyday life from today's passive involvement that includes internet site searches, weather forecasts and, at the other end of the sophistication scale, accuracy in playing certain computer games. It is already working discreetly in the back-office servers of government and industry for a variety of applications, including optimizing resources and increasing efficiency, since AI is not necessarily about providing human-like conversations, faces or behavior.

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