Robots as Future Companions

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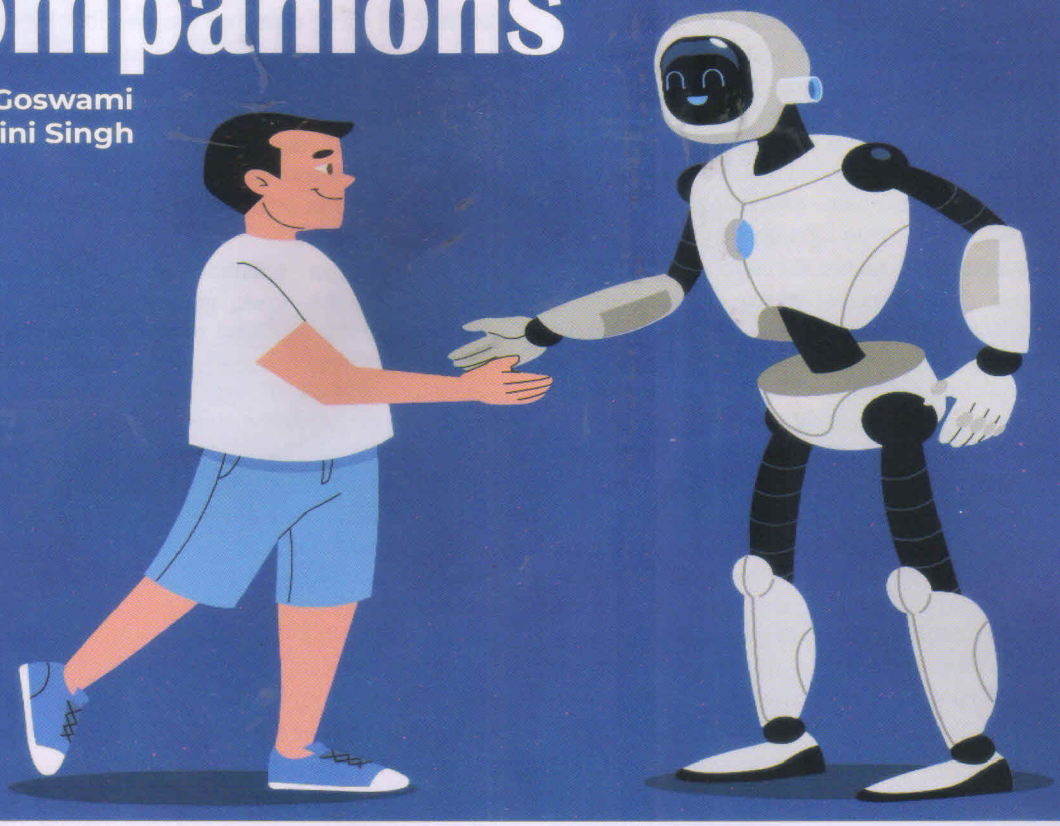

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ERICH Fromm once said, "The danger of the past was that men became slaves. The danger of the future is that men may become robots". The idea of robots has always mesmerised and thrilled humanity. The Terminators, Marvels, and Iron Men have always intrigued and fascinated humans, not only at the level of theatres and cinema but in real life too. With the use of tools and cultural development, humans have moved beyond their evolutionary past. Early human hunter-gatherers faced different situations than those in our modern industrialised societies. Although these advancements have led to improved welfare, they have also introduced new challenges, and one such challenge is the ageing population. In Europe, it's expected that around 35% of people will be 60 or older in 40 years. To maintain an active, creative, and autonomous ageing society, practical solutions are needed. Robot companions (RCs) represent a new class of machines that are designed to assist older individuals with daily tasks at home and beyond.

We are well aware that the market for residential robots is expanding from both research and commercial perspectives. A comprehensive understanding of the current state of global robotics research serves as the foundation for the idea of Robot Companions. Advanced robotics research has been conducted in various countries, including Japan, the United States, China, Korea, India, Australia, Europe, and many other nations. In controlled settings, robots are precise, fast, and agile. They effectively perform tasks such as manufacturing products, conducting surgeries, exploring Mars, and serving as prosthetics for humans.

However, robots possess limited abilities when it comes to engaging in meaningful and safe human-to-human interactions, performing complex tasks on their own, experiencing and navigating new environments, and easily integrating into the complex, daily social world of humans. In contrast, all living beings, including humans and certain "lower" animal species, can perform complex tasks. These include coordinating and performing multiple movements simultaneously, effectively exploring their surroundings, adapting to new environments, showcasing advanced individual and collective cognitive skills, responding to internal and external changes (such as ageing), and self-repairing when injured. These capabilities persist despite significant physical limitations, energy constraints, and the relatively slow processing and information transmission speeds of their nervous systems compared to silicon-based computational systems.

An intriguing viewpoint on the potential forms that future robot companions could take, along with their benefits and drawbacks, has been presented by Pransky in his article titled "Social Adjustments to a Robotic Future." For instance, a "Robotic Nanny" might assist in playing with and feeding children. Similarly, a "Robotic Assistant" or homework companion may help manage schedules, research, and