

Computer Science

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### The Essential Role of Computers

A heavy pounding rock or chipped flint was the key tool of the Stone Age. In the Bronze Age, a metal ax was the exemplar of cutting edge technology. Today, it is the computer that is the most valuable tool. Computers are essential in my daily life, in the workplace, in healthcare, and in global society.

On a typical day, I stream my favorite music and chat online with my friends who are spread out from Tennessee to Texas, and from Oregon to Seattle. With my team, I go on battle missions in exotic places, or to play futuristic zero-G ultimate frisbee in motion-tracking virtual reality. I can ask the house digital assistant Alexa to turn on the lights, or tell me when low tide will be so I can plan to walk my dog on the beach. Alexa is a handy voice-activated calculator that is very helpful for math, and she can look up local movie times. I connect to school online, and this gives me flexibility in when and where I study. All of these functions rely on internet connectivity and computer technology.



Computer technology has revolutionized the workplace. In the 1960s, only the government and big corporations had computers. Now, computers are everywhere. Companies use EMS, enterprise management systems, to keep track of all their operations. I recently got my first job at Walmart. I applied for the job online. Once I got my job as a cashier, communication and scheduling was done online. The registers and inventory all work using computer technology.

Health care has been upgraded by computer technology. Patient records and scheduling is done online. Disabled people are helped with adaptive technology that can activate lights or other equipment on voice command. Digital assistants and smart watches remind them to take medications, and keep track of their vital functions. Important information is shared automatically with care providers. This technology helps the elderly or disabled to be independent, but easily summon help if needed.

There is debate about the positive vs negative impacts of computer technology on society at large. On the positive side, it allows people to communicate and share ideas. This makes people less isolated in one way, but less face-to-face interactions makes people alone in another way. Generative AI is taking the place of artists and writers, and there is an ongoing strike among Hollywood writers (Dalton). AI can now take someone's face and voice and create new work without the actual actors. A rap song created with an AI-generated version of Drake's voice is in contention for a Grammy (Shanfeld and Wallenstein). So computer technology extends creativity, but creates a new challenge of how to compensate original human creators for work that is derived from theirs.

Computer technology is absolutely essential in society. It controls vital service networks that provide electrical power, communication, and money. It has had an explosive impact on creativity in ways that create both new opportunities and new challenges. It is amazing to think of all the applications that have emerged from machines that work by simply manipulating 1's and 0's.

### Works Cited

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