

Chapter 10

Development Trends in Robotization and Artificial Intelligence

ABSTRACT

This chapter analyzes developmental trends in robotization and artificial intelligence. The chapter begins by providing a brief history of artificial intelligence, focusing on developments during the 20th century. The chapter then examines developments of robot applications as well as their impacts on various economic sectors. Next, the ways in which AI have replaced advanced mental labor are examined, such as journalism. The chapter then focuses on the development of machine learning and deep learning. This is followed by a discussion of how AI can now be purchased and used via cloud services. The chapter concludes by considering the difficult question of whether AI can be creative and by considering security concerns related to AI.

THE HISTORY OF ARTIFICIAL INTELLIGENCE

For many centuries, there have been legends about golems in Europe. The legend holds that these strong clay beasts protect the Jews from aggression and pogroms, and that they are animated by spells, devoid of feelings and scrupulousness, and listen only to the commands of their master. This monstrosity is mainly associated with the Czech Prague. It was there that the Jews were to build this monster, where it was to take to the streets and spread destruction. However, the legend holds that Golems are not intelligent and that the command to perform a task is done literally because, by nature, they are perfectly obedient.

In the 19th century, this legend inspired the superhuman element in the novel *Frankenstein: Or, the Modern Prometheus* (1818), invented by Mary Shelley (1797–1851) with her great imagination (abusing drugs on a vacation on Lake Geneva in the company of Lord Byron “king of life” and others). In the novel, the Italian-Swiss scientist Victor Frankenstein (born in Naples, Italy) gains insight into the creation of life after dissecting living beings and studying their chemical processes. He then gives life to

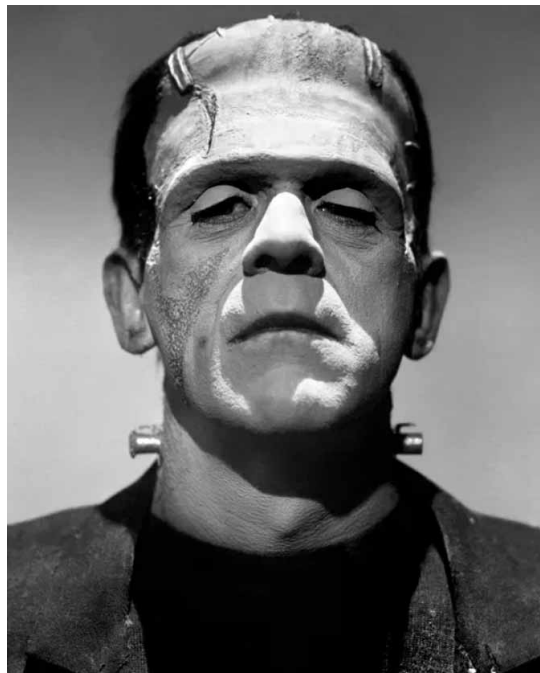
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Figure 1. The concept of a super-strong Golem, albeit without its own opinion (Photo: Wikipedia.org)



Figure 2. Frankenstein's superhuman creature that destroyed itself (Photo: TCD/VP/LMKMEDIA)



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