English

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Name: Nashbil Navarro ID: 4-832-1658

Ms: Jaime Roberto

Homework 3

Alex Turing (AI)

Biography

Alan Mathison Turing was born on 23 June 1912 in Paddington, London. His family was upper middle class. He was the second son of Julius and Sara, who remained in India for several years, so he spent his childhood with his older brother John.

The Guardian

In 1928, at Sherborne School, he met his friend Christopher Morcom, who would die two years later. For this reason, Turing became interested in the study of the human mind through physics and quantum mechanics, seeking the solution to the relationship between mind and matter. The following year at Cambridge, at King's College, he found a method of study that allowed more open ideas and there he managed to distinguish himself in logic and mathematics. In 1936 he was awarded a prize for his research in probability theory.

His research

At the age of 26, Turing began working for the British official encryption service. He obtained a doctorate from Princeton University, specialising in cryptology. In 1936, he imagined a computer that could solve any problem by translating it into mathematical expressions and then reducing it to a chain of logical operations with binary numbers, in which there were only two decisions: true or false. It involved reducing numbers, letters, images, sounds to ones and zeros and using a program to solve the problems in very simple steps.

National Geographic

Enigma was the German machine that encrypted messages during World War II. Bombe was created in 1939 by Turing to be able to decrypt these messages from the German army and be able to locate them, anticipating his strategy. It was an improved version of a device designed in 1938 by the Polish cryptologist Marian Rejewski. In addition, Bombe was the precursor of the digital electronic programmable computer.

Techrepublic

Bletchley Park was a military base in which messages from the Nazi army were intercepted and an intersemiotic and interlinguistic translation exercise was carried out. The use of this practice through the cryptographic analysis device created by Turing allowed the Allies to have an advantage during World War II. Ten thousand people worked there: mathematicians, engineers, linguists, university teachers, office workers. Two thirds of the workers at Bletchley were women. The work carried out there was kept secret until 1970.

Bletchley Park

Artificial intelligence

In 1950 Turing began his article Computing machinery and intelligence by asking the following question: can machines think? He was the first scientist to question this, although he did not coin the term we know today as artificial intelligence.

Artificial Intelligence is the scientific and technological discipline whose objective is to create processes of the mind and its connection with the body through computational metaphor.

The computational metaphor is a concept used by cognitive psychology. This discipline maintains that the brain has a data processing system, similar to that of a digital computer. In turn, the concept is used in the study of neuroscience and also in neurophilosophy (philosophy of mind).

The Turing test measured the ability of a machine to pass itself off as a human being through a conversation test between the two. If the human failed to identify that it was a machine, the latter would be considered intelligent.

Turing also contributed to mathematical biology. He published an article in 1952 that led to a field of mathematical research based on pattern formation, used today.

His struggle

In 1952, at the height of his career, Turing was tried and convicted by the British government due to his homosexuality and had to choose between being imprisoned or undergoing chemical castration. He chose the second option. He was denied access to the facilities at Bletchley Park. The situation led him to a deep depression.

Alan Turing died on June 7, 1954, poisoned by biting into a cyanide-laced apple in his laboratory. Forensic experts determined that it was suicide, a theory confirmed only in 2012 by Jack Copeland, historian and director of the Turing Archive for the History of Computing.