

65. Neuralink

The chapter "Neuralink: 2017–2020" encompasses the evolution of human-computer interfaces and introduces Neuralink, a company founded by Elon Musk aimed at significantly enhancing these interactions. The initial portion of the chapter provides a historical overview of human-computer interaction advancements, highlighting contributions from pioneers such as J.C.R. Licklider, Doug Engelbart, and Steve Jobs, among others. The narrative quickly shifts to a more personal anecdote involving Musk's frustration with the slow input-output speeds between humans and machines, serving as a catalyst for Neuralink's inception.

Elon Musk's vision for Neuralink was not merely theoretical but was deeply influenced by science fiction, particularly Iain Banks' "Culture" series, which features a technology called "neural lace" that intertwines human thoughts with computational devices. This inspiration drove Musk toward the practical realization of a brain-computer interface to facilitate a seamless information flow between humans and machines, potentially safeguarding humanity from the threats posed by artificial intelligence.

Neuralink aimed to develop a chip that could be implanted into the human brain to establish a direct communication pathway with computers. The technology's foundations were built on the Utah Array but intended to surpass its capabilities significantly by enabling thousands of channels for neuron activity detection. Elon Musk's ambitious goal was coupled with practical applications, envisioning initial uses for individuals with neurological disorders to interact with computers more effectively.

The story then delves into the technical challenges and breakthroughs Neuralink faced, including the development of "neural dust" by DJ Seo and the contribution of Shivon Zilis, who took on a pivotal role within the company. The chapter recounts the unveiling of Neuralink's technology, showcasing a pig named Gertrude as a proof of concept, and concludes with the challenges of miniaturizing the chip without compromising its functionality. Musk's insistence on simplicity and elegance in design led to significant redesigns, pushing the team towards a single-chip solution with no external connections.

Elon Musk's hands-on involvement and his drive for innovation are depicted as crucial factors in Neuralink's progress, culminating in a successful demonstration of the technology with a monkey named Pager, who could play the video game Pong through brain signals alone. This advancement underlines the chapter's core themes of human-computer symbiosis, Musk's visionary leadership, and the relentless pursuit of technological breakthroughs that could redefine humanity's future.