

# 89. Miracles

In November 2022 at Neuralink, a company focused on advancing brain-machine interfaces, Elon Musk signaled a transformative shift in the company's objectives. Established in Fremont, California, and expanded to Austin, Texas, Neuralink took root in a facility previously housing a venue for axe-throwing and bowling, revamped by Shivan Zilis to include sophisticated labs and collaborative workspaces. This strategic move was emblematic of Neuralink's ambitious drive toward groundbreaking medical applications, particularly for individuals with paralysis.

Musk's dissatisfaction with the slow progress, demonstrated by a Monkey's ability to play Pong via a brain chip—though visually impressive—lacked substantial impact on humanity's well-being. Consequently, Musk envisioned a more compelling application: enabling paralyzed individuals to regain control over their limbs through direct brain commands. This initiative promised to bypass spinal cord injuries or neurological dysfunctions, offering a tangible improvement in quality of life. Such an innovation was not only about enhancing human-computer interaction but fundamentally restoring human capabilities, a mission that Musk deemed "a fucking bold thing. And a good thing."

The dedication to this cause was evinced by the routine involvement of Musk himself, who made weekly visits to oversee developments. Lead engineer Jeremy Barenholtz exemplified the team's technical expertise and commitment to Musk's vision. Educated at Stanford and still youthful in appearance, Barenholtz represented the innovative spirit at Neuralink. His explanation of muscle-stimulation methodologies and the unconventional hypothesis regarding neural signal transmission highlighted the pioneering research underway.

A pivotal moment in realizing this vision was showcased through a demonstration involving two pigs, Captain and Tennille, who exhibited controlled leg movements triggered by electrical signals. This experiment underscored the potential to distinguish between voluntary muscle actuation and involuntary pain responses, a crucial distinction for the success of Musk's ambition. Neuralink's efforts, thereby, not only aimed at bridging the gap between minds and machines but also sought to profoundly alter the lives of those affected by paralysis, embodying a leap toward what many would consider a miracle.