

Design and construction of a brainwave-controlled robotic hand for people with disabilities

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Abstract: In the context of the increasing demand for technical support for people with disabilities, this topic focuses on designing and building a robotic hand system controlled by brain waves. The main goal is to improve the quality of life for individuals who have lost hand mobility due to injury or disease. The research applies a combination of experimental and theoretical methods to develop algorithms for processing input signals from the brain and flexibly controlling the design and manufacturing stages. The expected results will contribute to enhancing the independence of people with disabilities and expanding the application of brain-machine interface technology in the field of rehabilitation.

Keywords: robotic hand, brain waves, disabled people, rehabilitation engineering, signal processing