Smart Prosthetic Hand Helper

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This project represents a prosthetic device that can be an external wearable mobile, machine that covers the hand or part of it. The movement is generated by pneumatic and electric motors. Apparently, it can be installed on an upper limb. The device can send electric pulses to stimulate the neurons of the peripheral nervous system. Moreover, it can be used for different purposes, such as rehabilitation, training, powers assistance, diagnostics, ergonomics, and more. In comparison, most of the existing wearable devices face multiple problems in terms of size, cost, and weight. The other available options are large in size and the cost is high. Therefore, the goal of this project is to design a portable, lightweight and low-cost rehabilitation system for people with a paralyzed hand due to stroke. The wearable device allows patients to perform specific movement and exercises at home in order to train their affected hand with no need for visiting the doctors office. Thus, generally in a gradual way, the user who benefits from this device can restore the functionality of the targeted hand.