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Vibrotactile Gloves for Parkinson's Disease Patients

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Abstract: *Parkinson's Disease (PD) is a progressive neurodegenerative disorder marked by motor impairment due to the loss of dopamine-producing neurons. This paper presents the development of a vibrotactile glove designed to provide specific vibrational feedback through fingertip-based vibration motors, aimed at stimulating neuronal activity and potentially delaying PD symptoms. Constructed using an Arduino Nano, vibration motors, lithium-ion battery, slide switch, and a charging module, this glove prototype allows controlled vibrations at predefined frequencies and patterns. Preliminary testing suggests that this device may offer significant benefits in improving motor function and coordination, with potential implications as a preventive tool for those at risk of PD.*

Keywords: Parkinson's Disease(PD), Vibrotactile Stimulation, Wearable Technology, Motor Function Rehabilitation, Neurore habilitation, Arduino Nano, Preventive Therapy, Neurodegenerative Disorders, Sensory-Motor Integration,Tactile Feedback, Hand Dexterity Improvement, Non-Invasive Therapy, Vibration Therapy, Neural Activation, Motor Control Enhancement

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