

동적 팔 운동 근력 예측을 위한
Neural-Network-Based Predictive Model
(A Neural-Network-Based Predictive Model
of Dynamic Arm Strength)

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Abstract

Most existing models for predicting muscle forces are related to static strength, isometric strength, or 2-dimensional work tasks. In reality, work tasks are , however, performed usually under dynamic or 3-dimensional conditions. Therefore, using the static strength measurements obtained from the models, it is almost impossible to predict muscle strength under dynamic conditions. In order to predict the strength for such dynamic work tasks, joint angle, velocity, angular velocity, and other related factors have to be jointly considered.

In this paper, we present a new model for predicting dynamic arm strength. This model is based on a neural network and considers such factors as EMG data, joint angle, velocities, anthropometry data. To illustrate the validity of the proposed model, some prediction results are given.

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