

SMOOTHING ROPE SKIPPING DATA USING GAUSSIAN SCALE-SPACE METHOD

(Melicinkan Data Lompat Tali Menggunakan Kaedah Ruang-Skala Gaussian)

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ABSTRACT

The scale-space method has been widely used in handling image data at multiple scales. Application of Gaussian filtering in different field includes human vision problem, medical data, financial data and electroencephalogram (EEG) signal. The main purpose of this paper is to apply the Gaussian scale-space method by determining a suitable value in order to smooth rope skipping data. Smoothing technique using a Gaussian kernel with a selection of bandwidth () and time (x) is applied. It is found that the tolerance value of can be used to smooth not only one set of data, but also other biomechanical data of different anatomical body landmarks.

Keywords: Gaussian scale-space method; rope skipping; smoothing

ABSTRAK

Kaedah ruang-skala telah digunakan dengan meluas dalam pengendalian data imej pada skala yang berganda. Aplikasi penapisan Gaussian telah digunakan dalam pelbagai bidang termasuk masalah penglihatan manusia, data perubatan, data kewangan dan isyarat elektroensefalogram (EEG). Tujuan utama kajian ini adalah untuk menggunakan kaedah ruang-skala Gaussian dengan memilih satu nilai yang bersesuaian untuk melicinkan data aktiviti lompat tali. Teknik pelicinan menggunakan inti Gaussian digunakan dengan memilih jalur lebar () dan masa (x). Hasil kajian mendapati nilai yang dipilih boleh digunakan bukan hanya pada satu set data sahaja, tetapi juga boleh digunakan untuk data biomekanik yang lain pada kedudukan anatomi badan yang berbeza.

Kata kunci: kaedah ruang-skala Gaussian; lompat tali; pelicinan

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