

(54) Title of the invention : DEVELOPMENT OF EFFECTIVE BIOMETRIC GAIT RECOGNITION SYSTEM USING ONE SHOT LEARNING ALGORITHM

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(57) Abstract :

Biometric gait recognition has emerged as a promising modality for individual identification, offering non-intrusive and robust authentication in various domains such as security, surveillance, and healthcare. Traditional approaches to gait recognition often rely on extensive labeled datasets for training, posing challenges in scenarios where data collection is limited or impractical. In this study, we propose a novel framework for biometric gait recognition using one-shot learning algorithms, which can effectively identify individuals based on a single example of their gait pattern. Our approach leverages state-of-the-art one-shot learning techniques, including Siamese Networks and Prototypical Networks, to learn discriminative representations of gait patterns from minimal training data. By extracting relevant features such as step length, step width, and temporal dynamics, our system captures the unique characteristics of each individual's gait and achieves high recognition accuracy across diverse walking conditions and environments.

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