

Smart insoles for a pair of shoes, each of which contains four pressure sensors, the first of which (6) is located in the heel area of the foot, the second sensor (1) is located in the forefoot area, and two sensors (3, 5) are positioned along the trajectory of the reaction force during walking, specifically in the metatarsal bone of the foot, a microcontroller (9), a power supply (11), the inputs of the microcontroller (9) of each insole are connected to the outputs of the pressure sensors, and the output of the microcontroller (9) of each insole of the pair of shoes is connected via a wireless communication module (10) to the input of an external computer device (12), which is common to both insoles. In addition, each insole of a pair of shoes contains at least two additional pressure sensors (2, 4), one bend sensor (7), and one motion sensor (8). Wherein, one of the additional pressure sensors (2) is located in the forefoot area near the big toe, and the other additional pressure sensor (4) is located in the arch area of the foot. The bend sensor (7) is positioned along the axis of the foot and is designed to measure the degree of bending and extension of the foot during dynamic movements. The motion sensor (8) is positioned in the arch area of the foot and is designed to measure linear acceleration and the spatial position of the foot. The inputs of the microcontroller (9) are additionally connected to the outputs of two additional pressure sensors (2, 4) and the bend (7) and motion (8) sensors additionally incorporated into each insole. Wherein, the microcontroller (9) of each insole is designed to collect signals from the sensors (1, 2, 3, 4, 5, 6, 7, 8) located on the insole, perform their analog-to-digital conversion, and transmit them to an external computer device (12).