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(54) Title: METHOD AND APPARATUS FOR IMPROVING HUMAN BALANCE AND GAIT AND PREVENTING FOOT IN-
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(57) Abstract: A method and wearable system and for enhancing human balance and gait and preventing foot injury through neuro-
logical stimulation of the foot and the ankle. Subthreshold stimulation for neurosensory enhancement is provided via electrodes or
vibrational actuators, or combination thereof, disposed in or on a wearable a platform, such as an insole, sock shoe, removable shoe
insert, or applied without the support of a platform, to the skin surface of an individual. Suprathreshold stimulation for therapeutic
purposes, such as improving blood flow, is also provided by the vibrational actuators. The actuators and electrodes are driven by bias
signals generated by a bias signal generator that is coupled to a controller. The signal generator under the control of the controller is
adapted to generate a non-deterministic random signal, a repetitive pattern or series of patterns. The controller optionally includes
a communication port for interfacing with an external computer for purposes of optimizing and programming the controller. The
wearable system is powered by a power source.



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