

Walking robot learns how to scale hills

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- [Video: The robot that can walk up hills](#)

On its first attempt to walk up an incline, the RunBot will topple back on to its metallic backside.

However, the same as a toddler, it can learn from its mistakes until, after a few attempts, it is able to clamber up a hill with ease. RunBot already holds the world record in speed walking, managing three strides per second.

Now its inventors have expanded its repertoire so that it can learn how to tackle inclines of up to 15 degrees.

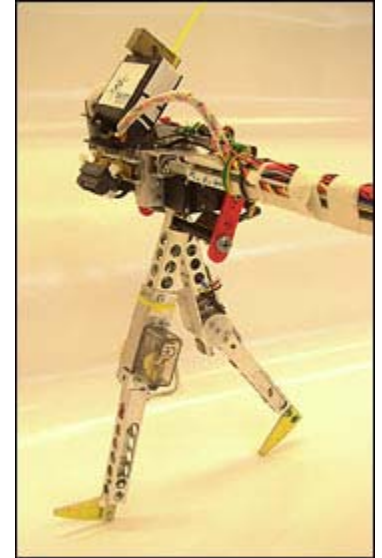
Once RunBot detects a slope with its infrared eye it adjusts its gait, leaning forward and using shorter steps.

The steps of RunBot are controlled by information received by sensors on the joints and feet, as well as an accelerometer which monitors the robot's lean.

These sensors pass data on to local neural loops - the equivalent of reflexes - that analyse the information to make adjustments to the robot's gait. If the robot encounters a slope then the higher level functions - a "brain" containing learning circuits - are used instead.

The research, published in the journal PLoS Computational Biology yesterday, was conducted by scientists led by Prof Florentin Wörgötter, at the Bernstein Centre for Computational Neuroscience at the University of Göttingen, Germany.

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