

Amber 2 robot walks with a human gait (w/ Video)

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(Phys.org) —The engineering team at Texas A&M's Amber robotics labs has been hard at work trying to improve one area of robotics that others seem to be ignoring—getting a robot to mimic the natural gait of a human being. Their latest effort is a robot they've named Amber 2—it's basically a pair of legs and feet attached to an overhead boom, but it appears to come closer to walking like a person than any other

robot out there.

People are able to walk so smoothly because of the seamless interaction between the muscles, bone, ligaments, etc. in the legs, ankles and feet. More specifically there is a rolling motion that goes on when people walk—we push off with our toes and land with our heels. But there is more to it than that, our heel and toes must work independently of each other, allowing for pivoting, bending, twisting and stretching. It's a smooth dance between our bodies and the external world beneath us. Getting a [robot](#) to walk like us means not just building legs, ankles or feet like ours, it means programming them all to work together in way that is graceful when the robot walks, and that appears to be where the Amber 2 team is headed.

Amber 2 walks like a person—there's little doubt about that. But, it's also still attached to a boom—unleashed it would fall. The engineers on the project realize this of course and that's why they are undoubtedly working on an Amber 3 or 4—there is still the problem of maintaining balance while walking like we do, something that for us at least, has as much to do with our brains, fluid in our ears, and even our arms, as it does with our legs, ankles and feet.

Watching the Amber 2 in action stirs the imagination—it's not difficult to envision such a robot with legs covered to resemble ours, with shoes on, walking around like we do, blending in. It's all part of the ultimate goal—to build a robot indistinguishable from a human being—though what we'll want from such a machine is still very much up for debate.

More information: www.bipedalrobotics.com/

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