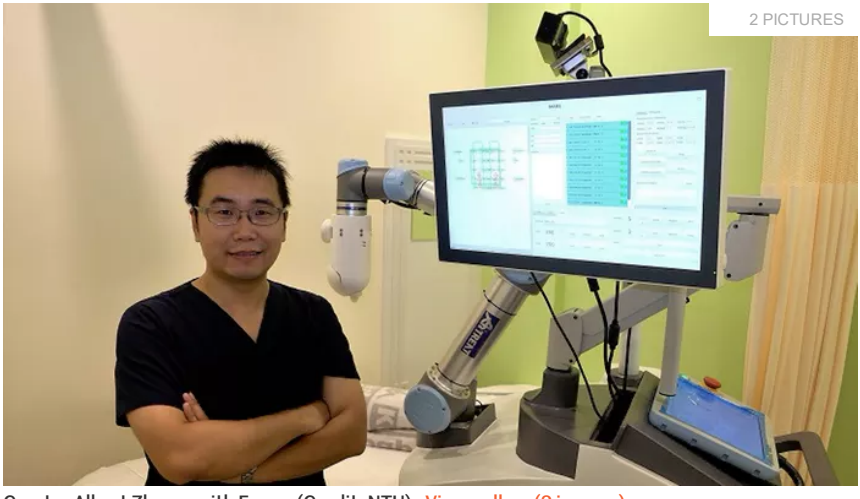
ROBOTICS

Massage-giving robot rubs people the right way

Ben Coxworth | July 18, 2016



Creator Albert Zhang, with Emma (Credit: NTU) View gallery (2 images)

As our population continues to get older, physiotherapists are going to be needed more than ever. It was with this in mind that Emma - or Expert Manipulative Massage Automation - was created. The one-armed robot is designed to help physiotherapists handle an increasing workload, by conducting massage therapy on their human patients.

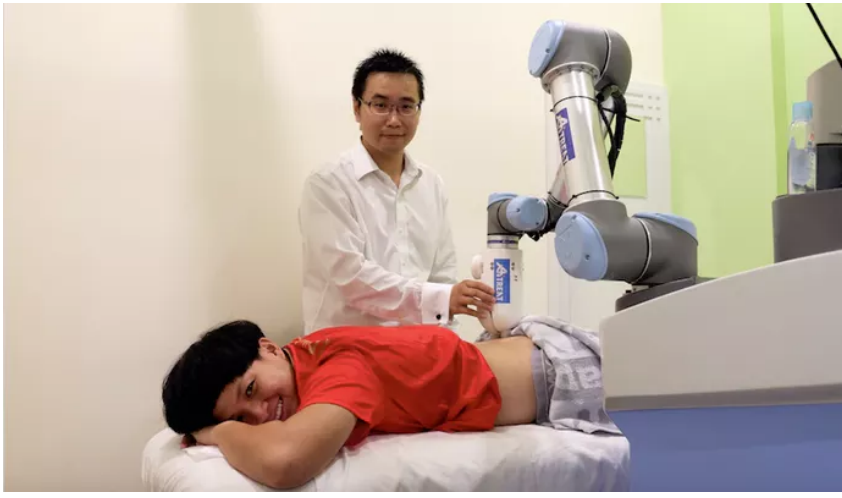
Emma is the product of Singaporean startup AiTreat, and was developed by Nanyang Technological University graduate Albert Zhang. It's currently undergoing clinical trials at the Kin Teck Tong medical institution, and has already been used on 50 patients to successfully treat conditions including tennis elbow, lower back pain, and stiff neck and shoulders.

Therapists start by physically guiding Emma through the type of massage that needs to be done.

From there, the robot can continue the motion on its own, using a combination of

a 3D stereoscopic camera system and a 3D-printed pressure-sensitive "massage tip." That tip is able to assess patients' responses, such as changes in the stiffness of the muscle or tendon that's being worked on. This data is uploaded to the cloud, so that therapists can monitor patients' progress over time, and alter the treatment as needed.

Additionally, if Emma's massage tip detects responses associated with pain, it will ease up on the pressure.



Once the current trials are over, plans call for a second-generation robot to be built, which will be more compact and mobile than the current model. There's no word on when a final commercial version may be available.

"This will be one of the first robots out in the market specifically for use by sports therapists and Traditional Chinese Medicine (TCM) physicians," says Zhang. "Our aim is not to replace the therapists who are skilled in sports massage and acupoint therapy, but to improve productivity by enabling one therapist to treat multiple patients with the help of our robots."

Source: Nanyang Technological University

VIEW GALLERY (2 IMAGES)

TAGS #MASSAGE #TREATMENT #NANYANG TECHNOLOGICAL UNIVERSITY