

THE ENGINEER, MONDAY, 9 OCTOBER 2017

<https://www.theengineer.co.uk/robot-masseuse-singapore-trial/>

THE ENGINEER

News Medical & healthcare Robotics Artificial Intelligence Automation

Robot masseuse gets hands-on in Singapore trial

9th October 2017 11:14 am

A robot masseuse that mimics the human hand is undergoing its first patient trial in Singapore, delivering physiotherapy and traditional Chinese massages such as shiatsu.



Known as EMMA (Expert Manipulative Massage Automation), the technology was developed by AiTreat, a start-up company spun out of Nanyang Technological University Singapore (NTU Singapore). It uses a fully articulated robotic limb that operates through six degrees of freedom, with two silicon massage tips mounted at the end. Sensors measure the stiffness of tendons and muscles, while a cloud-based **artificial intelligence** (AI) computes the exact pressure required for each patient. The AI can also analyse the progress of the patient, generating a performance report that tracks recovery.

while the therapist attends a second patient on the other. This set up was configured to maximise EMMA’s productivity while allowing the therapist to deliver more focused care.

“By using EMMA to do the labour intensive massages, we can now offer a longer therapy session for patients while reducing the cost of treatment,” said AiTreat founder Albert Zhang, who graduated from NTU’s Double Degree programme in Biomedical Sciences and Chinese Medicine.

“The human therapist is then free to focus on other areas such as the neck and limb joints which EMMA can’t massage at the moment.”

AiTreat claims that a conventional treatment package for lower back pain consisting of a consultation, acupuncture and a 20-minute massage would typically range from about \$50-\$75 in Singapore. Using EMMA, a similar package could be delivered for \$50, but with a 40-minute massage instead. According to the company, the robot can do the work of two masseuses, enabling a clinic to operate with a staff of three rather than five.