

Industrial Robot Meets Artificial Intelligence to Create Art



(Image courtesy of ATONATON.)

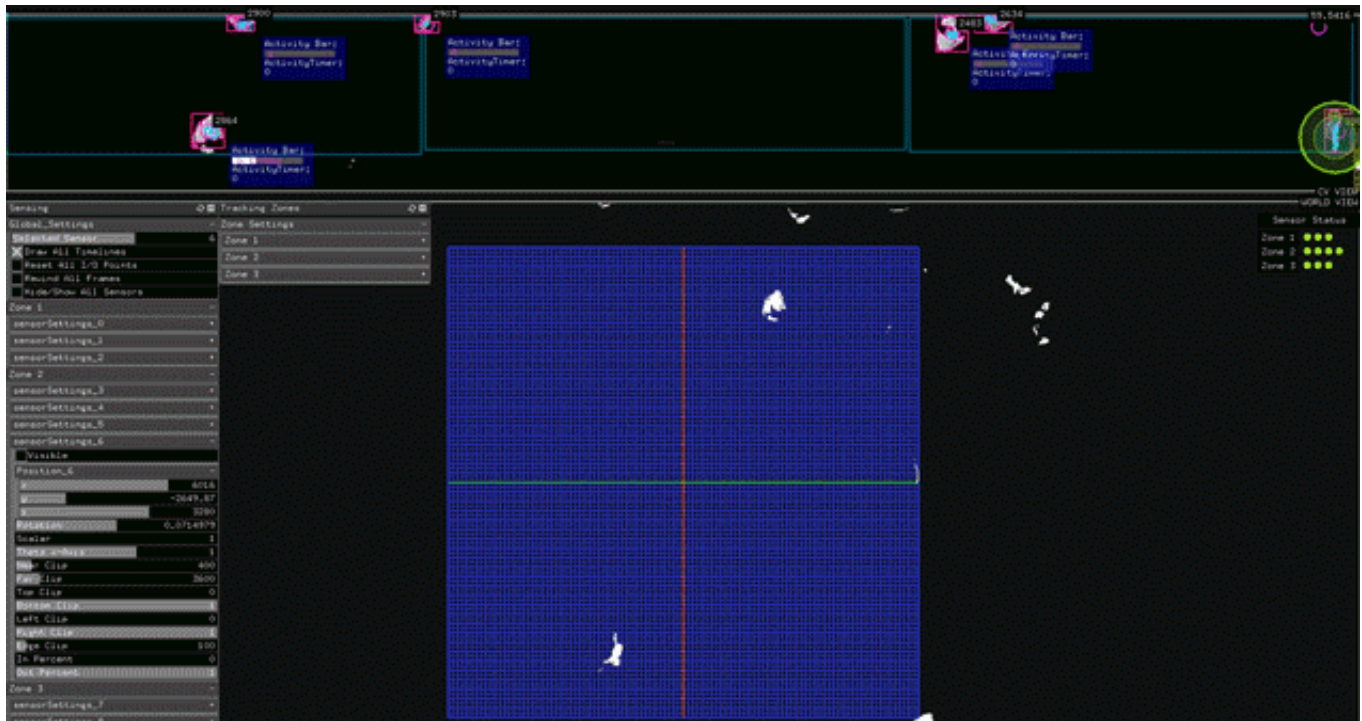
What if the robots of the future were primarily designed to [help humans](#) and empathise with us?

The creators of Mimus, a 1,200-kg (2646 lbs.) industrial robot that can sense and respond to human movement, believe it's possible. Part art-installation, part display of engineering ingenuity, Mimus was created from an ABB IRB 6700 robot and commissioned for the "Fear and Love" exhibit at [The Design Museum](#) with the goal of promoting companionship between humans and machines. The robot's creator notes that this particular machine is more like a "she" than an "it."



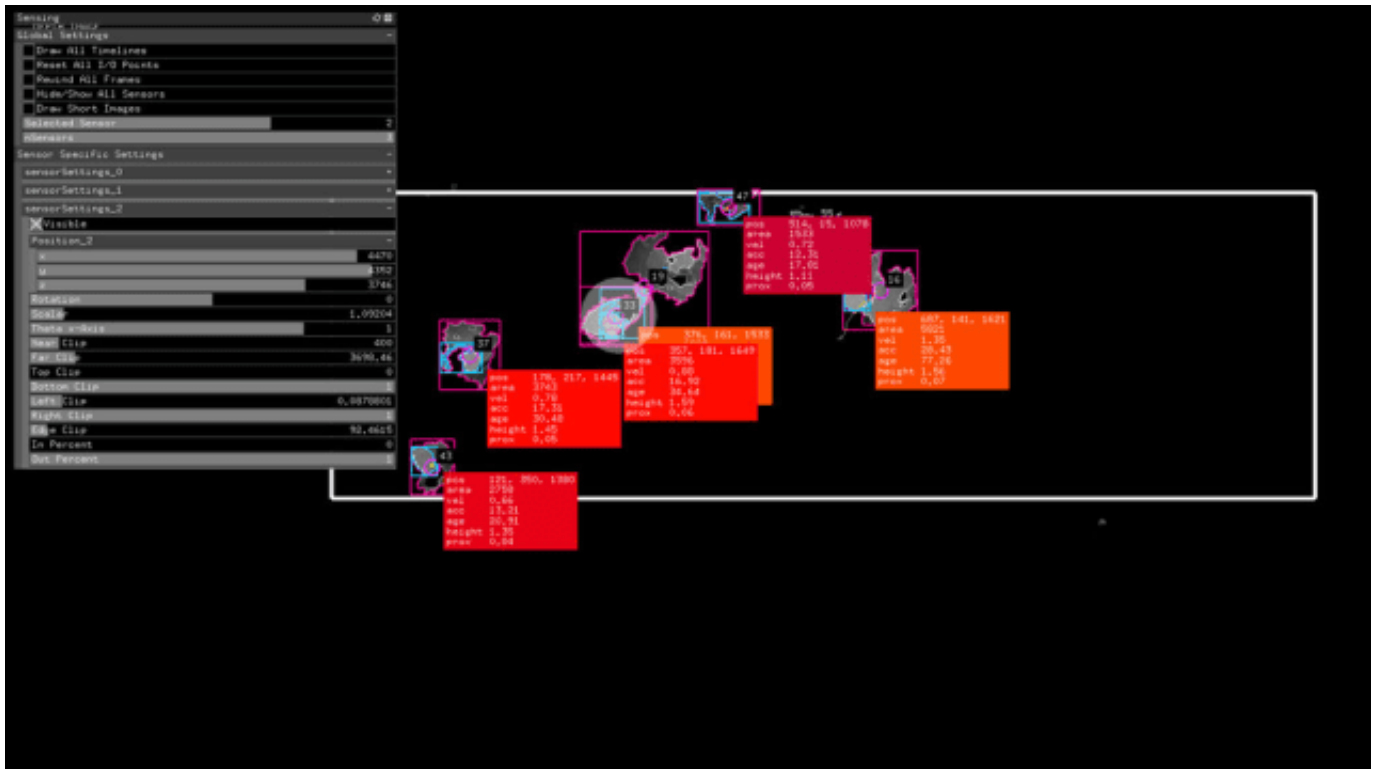
(Image courtesy of ATONATON.)

Most industrial robots are made to perform repetitive tasks, but Mimus has no pre-planned movements and is instead programmed to freely explore the space around her and to interact with visitors. The exhibit designers wanted to replicate the experience of seeing a large, exotic animal at a zoo. Housed in a glass enclosure, and equipped with infrared depth sensors mounted in the ceiling, Mimus is able to get close to visitors she finds interesting, often mimicking their movements.



(Image courtesy of ATONATON.)

Mimus detects people through software that stitches individual sensor data into a single point-cloud that corresponds to the perimeter of the enclosure. The software then uses markerless sensor technology to track the basic gestures of people from 500 millimeters to 2.2. meters. Remarkably, it doesn't matter if it's just one person or a whole crowd of people present. Once a person is "seen" by Mimus, she will take note of attributes such as position, age, height or the level of activity and engagement.



(Image courtesy of ATONATON.)

Mimus then processes the attributes to choose the person who is most interesting, in her view. That view is also changeable: in one instance, Mimus might seem to be more attracted to visitors with lower heights, such as children, while another day she might be more inclined to interact with people who are older, or who've been standing at the exhibit the longest. Once somebody is the lucky recipient of Mimus's attention, they have to work to keep it, or she will “get bored” and move on to choose another visitor to mimic.

Madeline the Robot Tamer & Mimus



The robot weighs more than a ton and has the ability to move up to nine meters per second, but a visit with Mimus is completely safe. The ABB robotics team that sponsored the project adhered to strict international safety standards so that Mimus can come across as curious, shy, playful or indifferent, but never dangerous.

Industrial robots [will continue to play a pivotal role in the future of manufacturing](#) and human-centered, empathetic interfaces could be a prominent feature. Mimus herself is not intended for commercial application, but designers hope the real-time sensor and proximity data she showcases could help to make the robots of the future safer and friendlier.