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Watch: AI Robot Tries to Make Cats Happy in Unique Feline 'Utopia' Trial

BY **ARISTOS GEORGIOU** ON 3/24/23 AT 4:07 PM EDT

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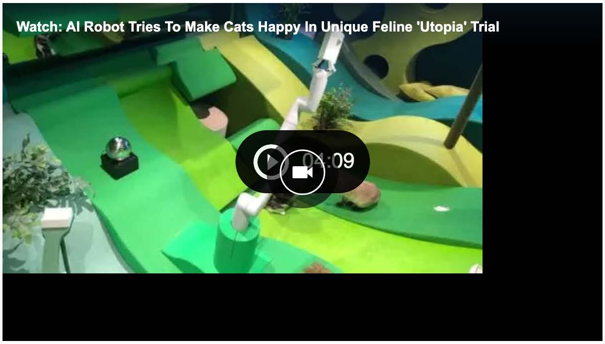
LIFE CATS PETS ARTIFICIAL INTELLIGENCE INTERNET AND TECHNOLOGY

Video footage shows a unique experiment in which an AI-powered robotic arm has been tasked with trying to make a group of cats happy in a feline "utopia."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From March 22 until April 2, three cats will enter the specially designed environment—located in Brighton, England—for six hours a day. In the environment, the cats can relax, explore and interact with the robotic arm, which will provide the animals—siblings Pumpkin and Clover and their dad, Ghostbuster—with snacks and activities.

The AI-powered arm is learning which activities and snacks the cats like the most and tailoring its interactions accordingly.

The project, known as Cat Royale, was developed as an art installation by members of Blast Theory, an award-winning, Brighton-based artists' group founded in 1991. It creates interactive installations, performances, games, films and apps that explore social and political questions.

Clover is seen in the Cat Royale feline environment, which was designed by the artists' group Blast Theory.

CAT ROYALE BY BLAST THEORY. DEVELOPED WITH THE UNIVERSITY OF NOTTINGHAM AND FUNDED BY TAS HUB.

The group's work, which draws on popular culture and new technologies, places the public at the center of unusual and sometimes unsettling experiences. Led by Matt Adams, Ju Row Farr and Nick Tandavanitj, Blast Theory often works closely with scientists. It has co-authored dozens of papers with the Mixed Reality Lab at the University of Nottingham, which is also collaborating on its latest project.

The artists are also collaborating with scientists from Kings' College London and Britain's Open University on Cat Royale.

The art project is designed to explore issues with real scientific and societal value that are related to artificial intelligence and may have implications for both humans and our companion animals.

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"Large tech companies such as Meta and Tesla claim to be improving human happiness through technology. As AI becomes more and more widespread, it's important to explore what risks are growing as a result," Adams said in a statement.

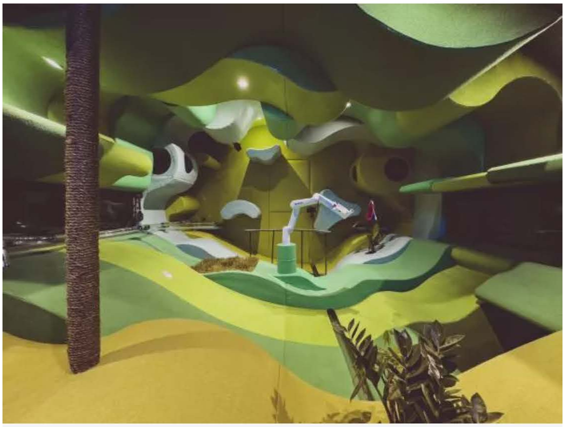
Autonomous systems are increasingly being used in animal care for applications ranging from milking cows and automatic feeders to robotic toys for pets, the artists said.

In a statement, Blast Theory said: "These systems—which operate independently of humans—promise huge benefits and, as with all new technologies, important costs, some of which may take time to fully reveal themselves. Yet we are giving machines increasing agency in our daily lives. We want to understand how these technologies are going to impact on animal welfare and ultimately human welfare."

The statement continued: "We started working on Cat Royale to explore what it might mean when AI comes into our homes and affects us and our loved ones. All three artists have pets and we're curious what cats might make of an autonomous system. How much can we really know about what our pets are thinking? How do we know that they are happy?"

The feline environment that Ghostbuster, Pumpkin and Clover are exploring has been designed so that all of the cats' needs are catered to. It was designed in collaboration with animal behavior specialists and measures around 11 feet wide by 15 feet long by 10 feet high.

There are spaces to play and socialize—including high platforms to pounce from as well as walkways and curved walls to explore. The carpet material that lines the environment is intended to provide a good grip for the cats, making it a fun place to wander around. The green color was chosen to echo a garden or shaded woodland.



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CAT ROYALE BY BLAST THEORY. DEVELOPED WITH THE UNIVERSITY OF NOTTINGHAM AND FUNDED BY TAS HUB.

There are also dens where the cats can curl up and sleep. In addition, the environment includes cat-safe plants, a giant scratching post, sunken litter tray areas and feeding stations with catnip.

Food and water are available at all times, while the temperature, lighting and ventilation can all be controlled to provide the cats with as much comfort as possible.

In the middle of the room sits the AI-powered robotic arm, which offers activities with the aim of entertaining the cats and making them happy. These may include throwing a ball, dangling a feather, jingling a bell, providing a massage or offering a treat.

An integrated computer vision system, which tracks the felines, is simultaneously trying to measure the cats' happiness as they interact with the robot. It then tries to learn how to increase their happiness by suggesting new activities for the arm to try.

To train their AI system to understand the "happiness" of cats, Blast Theory asked volunteers to film their own cats before the experiment. Thousands of these videos were subsequently posted to the citizen science website Zooniverse.

BLAST THEORY
Cat Royale: Day Two
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The artists then asked cat owners all over the world to watch the videos and tag them with information, to help train the system to recognize what a happy cat looks like and how it behaves.

Human experts are also making independent assessments of the cats' happiness during their time in the environment, using a system known as the Cat Stress Score.

Cameras installed inside the environment are capturing footage of the cats over the entire six hours they are inside. A stream of the project is being shown at Australia's World Science Festival Brisbane.

Highlights from each day of the project are being shown on the Blast Theory website at 8 p.m. GMT every day, or 4 p.m. ET.

Clips from the first day of the installation show the cats responding enthusiastically to the activities offered by the robotic arm.

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Throughout their time in the environment, the cats are being supervised by a team of experts to ensure their safety and well-being. The rest of the day they are spending time with their owner and living normally.

The artists hope that the experiment will improve our understanding of cats and potentially yield insights into how we can improve their welfare. They said it will also cast light on how our feline friends interact with technology.

"If cats are going to be living more closely with technology, including autonomous systems, it's important to understand how cats experience that relationship," Blast Theory said.