

# *Mimicry*

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### **Abstract**

In this talk, Lingdong Huang and Ziwei Wu will discuss their new project, *Mimicry*, sharing their experience in integrating art and technology, in this particular project, as well as in their creative practices in general.

Ziwei will talk about their collaborative work *Mimicry* first and discuss the work structure and other research details. *Mimicry* is a multi-screen video installation powered by computer algorithms and inspired by mimicry in nature.

Lingdong will elaborate on the details of the genetic algorithm used by *Mimicry* and specifically how computer simulated phases of mutation, crossover and selection lead to the gradual evolution of the insects' camouflages, and how the underlying data are encoded and presented.

### ***Mimicry*: Algorithm as a new and altered nature**

*Mimicry* is a multi-screen video installation powered by computer algorithms and inspired by mimicry in nature, the unique way that species protect themselves by changing color and pattern in response to environment.

In this experimental art piece, cameras will be recording plants in real-time, and through a genetic algorithm the color and shape of virtual insects will be generated and evolved over time, toward the ultimate goal of visually blending into the recorded background. This simulated breeding, selection, and mutation are visualized across the video monitors positioned in front of the aforementioned living plants as they progress.

### **A Real-time Loop System of a Machine Learning Insect**

In addition to exploring the intersection between nature and computation, this work has relevance to the human society as well. As Walter Lippmann describes it in his book *Public Opinion*, people construct a pseudo-environment that is a subjective, biased, and necessarily abridged mental image of the world. Real environment, pseudo environment, human behavior and its consequences influence each other to construct a loop structure. To a degree, everyone's pseudo-environment is a fiction.

The setup of the installation is an homage to Nam June Paik's TV Garden. Paik imagined a future landscape where technology is an integral part of the natural world. We find that perspective compelling, even today in 2021.



Fig. 1. *Mimicry*, 2020, Lingdong Huang and Ziwei Wu, Copyright belongs to Artist.



Fig. 2. *Mimicry*, 2020, Lingdong Huang and Ziwei Wu, Copyright belongs to Artist.



Fig. 3. *Mimicry*, 2020, Lingdong Huang and Ziwei Wu, Copyright belongs to Artist.



Fig. 4. *Mimicry*, 2020, Lingdong Huang and Ziwei Wu, Copyright belongs to Artist.

## References

Previous artist talks:

<https://virallife.vitenparken.no/>

<https://vimeo.com/472054066/71ba5d80f4>

## Biographies

**Lingdong Huang** is an artist and creative technologist specializing in software development for the arts. His fields of expertise include machine learning, computer vision and graphics, interaction design and procedural generation. Born in Shanghai in 1997, he recently received a Bachelor of Computer Science and Arts (BCSA) at Carnegie Mellon University in December 2019. His better-known works include *wenyan-lang* (2019), an esoteric programming language in Classical Chinese, {Shan,Shui}\* (2018), an infinite procedurally generated Chinese landscape painting, and *doodle-place* (2019), a virtual world inhabited by user-submitted, computationally- animated doodles.

**Ziwei Wu** is a media artist and researcher who born in Shenzhen in 1996, received a Bachelor of Inter media art at China Academy of Art and a MFA student in Computational Arts at Goldsmiths. She is currently a PhD Candidate in Computational Media and Arts, Hong Kong University of Science and Technology. Her artworks are mainly based on biology, science and their influence in society. She utilizes a range of media like painting, installation, Audio-Visual, 2D and 3D animation, VR, and digital mapping. She has won many awards, including the Lumen prize, the Batsford prize and has been funded by Ali Geek Plan. Her international art exhibits include Watermans Gallery London, The Cello Factory London, Himalayas Museum Shanghai, Yuan Museum Chongqing, Times Art Museum Beijing, and OCAT Shenzhen.