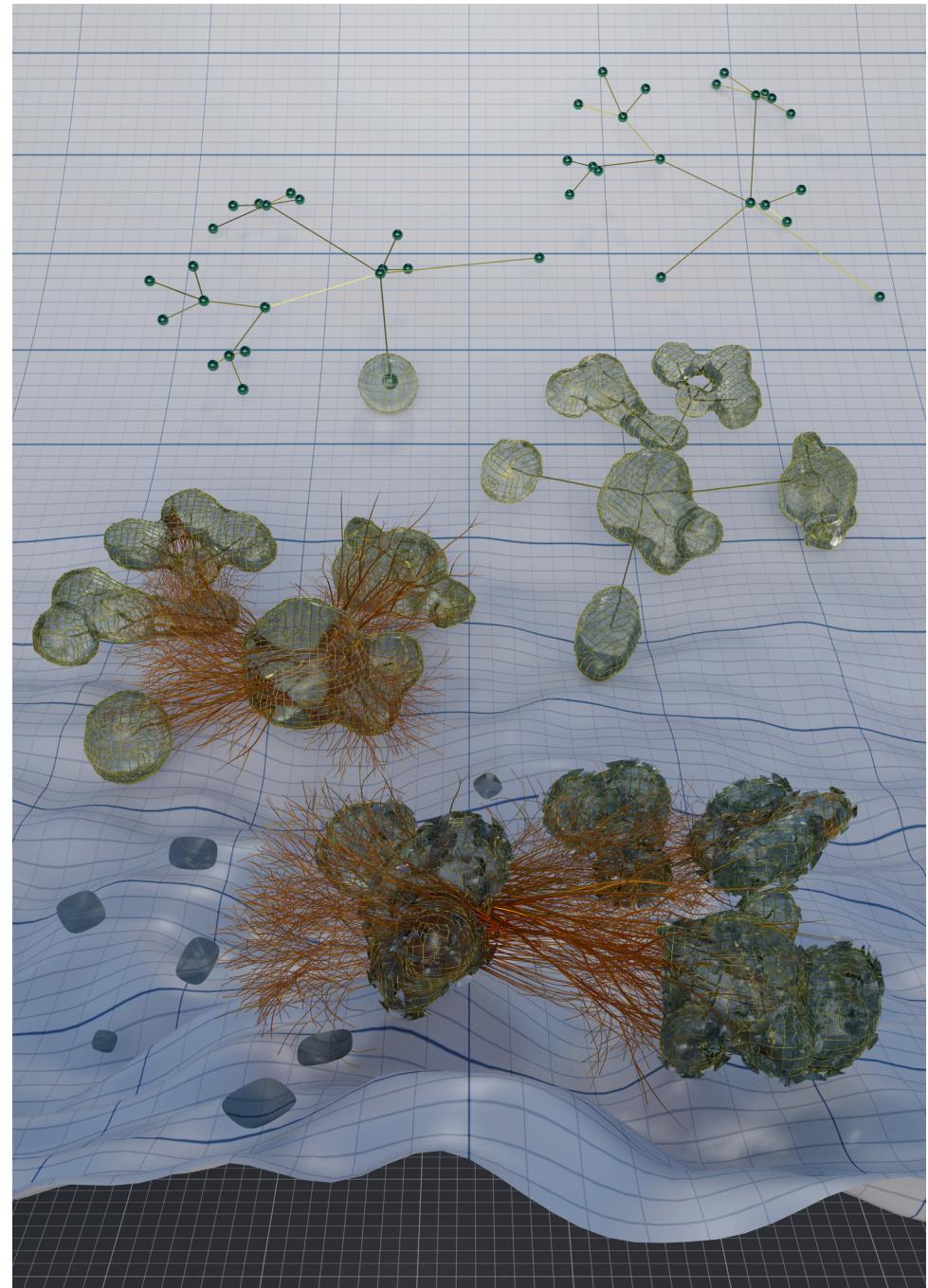


Sonia Bernac (Bernaciak)

PORTFOLIO OF SELECTED INTERDISCIPLINARY WORK

Blender, size of vertices and edges conditioned by the data collected from expanding datasets, 2022

This image was created as an early investigation to the possible logics of an expanding system with self-organising architecture. Graph theory was used to reconsider the role of "edges" in the organisation of multimodal systems. The image became one of the primary blueprints for the Artificial and Distributed Intelligence Lab and served as a foundation for the experiments with architectural hierarchies of generative AI.



Polymorph II

Artificial and Distributed Intelligence Lab, Royal College of Art
In collaboration with Maggie Roberts, Jeremy Keenan and Johnny Golding

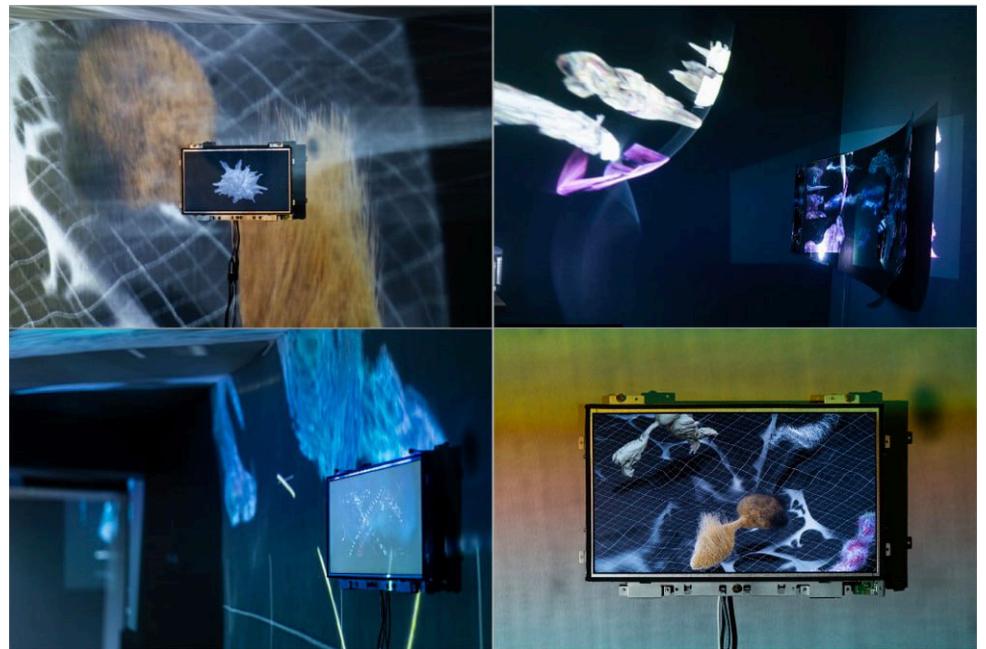
Complex adaptive AI system, a custom-trained Stable Diffusion model, RAVE model, TouchDesigner workflow, 3D Blender environments, custom code, metal sheets, conductive threads, capacitive sensor, cameras, screens, speakers

Polymorph II is an AI system that continuously retrains on its own outputs and processes. Whereas most generative AI tools follow a fixed cycle of training and deployment, leaving users to interact only with the final, prompt-driven stage, Polymorph's model and prompting logic evolve in response to the system's physical environment. Real-time inputs from sensors, cameras, and other data streams shape how the system generates and interprets material.

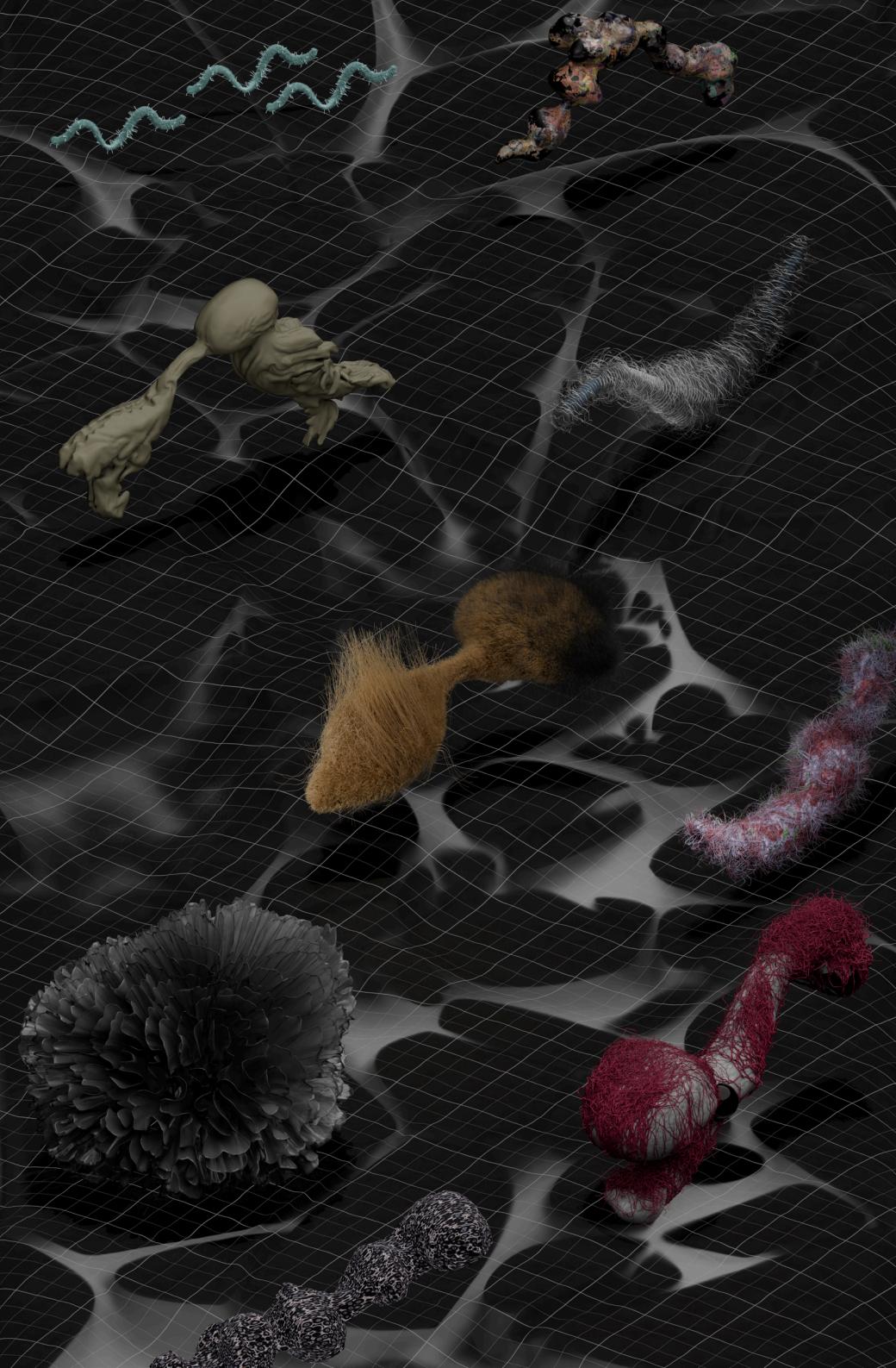
In this iteration, Polymorph integrates a fine-tuned Stable Diffusion model with two steel plates that function as both sensors and sound resonators, along with thin conductive fibres that respond to shifting air currents. As data moves across sensory, auditory, optical, and computational registers, the dataset expands and merges with the environment in which the system is situated. Subtle variations: airflow, bodily movement, electromagnetic interference, become entangled with the model's generative processes. The sensing, auditory, and visual components operate simultaneously as inputs and outputs, producing a dynamic structure of continuous feedback.



<https://www.youtube.com/watch?v=71wukZ3TAQ0>



Installation iterations



Deviations of the Fruit Fly

In collaboration with Jeremy Keenan

Video, 3D flocking simulations, AI voiceover trained on author's voice samples, 2023

Deviations of the Fruit Fly is a short film about unruly algorithmic cohesions, narrative clustering and circulation of meaning(s). It uses imagery associated with scientific illustrations and 3D diagrams to follow the logic of arbitrary associations. The subsequent environments of the video are set up as experiments - the animated interactions of particles are not choreographed but conditioned by distributed attractors embedded in the surfaces of the models.



<https://youtu.be/9PALZftcbxw>

A bestiary of spurious correlations — Britney

A series of Blender models and plaster powder prints simulating image embeddings, exhibition view, 2022

Each rectangle on the clustered protrusions is an image search result obtained through googling -> Leave Britney alone. The distribution of blobs and size of protrusions is a result of patterns found in the large body of collected data.



The Itches: A Gym for Public Embarrassments

In collaboration with the Idle Institute (Installation, metal, powder-coated sculptures,) ATM gallery, 2018

The Itches: A Gym for Public Embarrassments revolved around five bespoke exercise machines, designed to perfect instances of minor public humiliation. The apparatus sat inside a grey institutional display, layering atmospheres of contemporary bureaus, design fairs, waiting rooms and gym spaces. Each had a set of instructions in the form of a narrative manual—embedded in an online interface (<http://show.idle.institute>). Through the analysis of the language and voices of automated customer service labyrinths, motivational talks, helplines and public transport alerts, the work engaged with sometimes seductive and often absurd algorithms of social infrastructures.



Go back

Press play below...

▶ -05:28



<http://show.idle.institute>

Machine for eliminating the side-effects of pressing the wrong buttons

- Enabling self-direction through infinite phone-line surveys;
- Demonstrating an evidenced approval of anything;
- Preparing every variant of a message you will never send;
- Practicing pressing all lift-buttons except the correct one, demonstrating goodwill and empathy towards those who might be going to other places;
- Preparing you for decisions concerning: crises, referendums, mass-scale invasion, compulsive purchases, dogged pursuit of victims, detonation etc.