Inquiring the Backends of Machine Learning Artworks:
Making Meaning by Calculation

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Abstract

How is machine learning (ML) in its materiality entangled in the making of meaning in contemporary art? And could the making of meaning based on calculations of machine learning be read as a new cultural technique? This scholarly presentation will explore these questions by looking at three artistic approaches—Jenna Sutela, Rafik Anadol and the chatbot *HUO9000*—and how they make use of the role of back-end *interfaces*, the control centres that manipulate the calculations of machine learning to make meaning.

Contemporary Art and ML

When artists turn to machine learning (ML) as a medium—i.e. labeling datasets and building and optimizing ML models—backend or technical processes become central to the conceptual framework of the artwork and the artist's (and their teams') practice. The interfaces that act as control centers for these projects have therefore become critical sites for artistic work: they are where artistic meaning making is happening when using ML as a medium, tool or—depending on the artist's positioning—collaborator.

To show this, our scholarly presentation will analyze the production and use of interfaces created for three artworks that we can access through our work with the Creative AI Lab situated at Serpentine Galleries: 1) Jenna Sutela's *I Magma,* in which the artist worked with Allison Parrish and Memo Akten to create an RNN language generation model. This model was trained on the Sacred Texts Archive and open source LSD "trip" reports and used Google Quickdraw to associate the movement of custom lava lamps with predictions from the model; 2) Refik Anadol's *Machine Hallucinations* series which uses generative adversarial networks (GANs) to transform huge image archives into data sculptures; 3) An experimental chatbot prototype by the Creative AI Lab called *HUO9000*, trained on thousands of interviews by Hans Ulrich Obrist, the Serpentine's Artistic Director.

Creative AI Lab

The research into these three artworks and their backends is part of the *Creative AI Lab*, co-founded and led by PI Dr Mercedes Bunz (DDH, KCL) and Co-I Eva Jäger (Serpentine Galleries). The Lab, founded in 2019, is a research collaboration between the Serpentine Galleries and the Digital Humanities Department at King's College London. Through the lens of art-making, the Lab engages with ML as creative media. In 2020, the Creative AI Lab launched a database of ML/AI tools and resources and a series of events including a panel discussion series on the Aesthetics of New AI. The next phase of the Creative AI Lab's research is devoted to the study of artistic interfaces and their role in meaning making through ML, which will be initiated with this scholarly presentation.

By studying the backend interface of each project, this presentation aims to understand what the art production paradigm can help us understand about building and interfacing with ML models, and to ask how ML is transforming the making of meaning (Bunz 2019) in those art works.
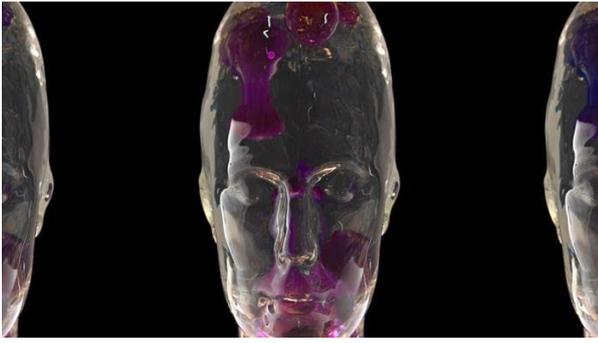
Fig. 1. I Magma, 2019, Jenna Sutela, Mixed Media, Commissioned by Moderna Museet and Serpentine Galleries.

Cultural institutions and the artistic usages of ML play a pivotal role in offering a space for much needed experimentation and understanding of ML technology beyond its corporate application as an effective instrument (Penny, 2017). This presentation will analyze the artistic workings of (and with) ML interfaces and inquire into the ways ML could be understood as a new procedure for encoding and decoding symbolic information and cultural signs (images, language). We will ask: to what extent can the making of meaning through *calculation* (i.e. algorithmic processes) be read as a new "cultural technique?" (Siegert 2020); And, in what way would this new cultural technique transform past prevailing understandings of the making of meaning in culture? (Hall 1980).

References

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Biographies

Dr. Mercedes Bunz is the Creative AI Principal Investigator and Senior Lecturer in Digital Society in the Department of Digital Humanities, King's College London, where she is also Deputy Head of the Department. Her research explores how digital technology transforms knowledge and power.

Eva Jäger is Associate Curator, Arts Technologies at Serpentine Galleries, London. She is Co-I of the Creative AI Lab and a practicing artist working to visualize the machine gaze and build new machine learning interfaces with Studio Legrand Jäger.