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# Interface: Technology & Portraiture

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# INTERFACE: TECHNOLOGY & PORTRAITURE

**Curated by:**

––> Sydney Mullins

**Featuring:**

––> John Harlan Norris

––> Chris Nelson

––> Charles Dillion Ward

––> Siavash Tohidi

––> Amy M. Youngs

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— Sydney Mullins

# &lt;Introduction&gt;

Do you feel like your face represents you as a person? Or does your identity exceed your appearance? While our interests, talents, or values define our identity, our face (and body) will always be a part of us and is often intimately intertwined with that identity. We recognize that we are more than just a face and a name; we also have complex thoughts, feelings, anxieties, and attachments: a multitude of elements that combine to make us who we are. When we construct our identities with others, we integrate all of these elements together, whether we know it or not.

When it comes to the internet, however, we can pick and choose which pieces of ourselves to share. We construct an online identity that is in some ways different from our real-life one. Some elements are lost in translation while others are kept offline. You can share more than just selfies and user profiles on the internet, and social media may even provide a place to be what feels like a more authentic version of yourself. On the internet, we can connect with others concerning our interests, talents, and values. We can seek new information and engage in arguments to our hearts' content. But ask yourself, for a moment: are you the same person online as you are in real life? Is your digital identity constructed from all the same elements as your real-life identity, or do they differ somehow?

Contemporary artwork often reflects a society's changing attitudes toward new technologies. For example, This is a Portrait if I Say So curated by Anne Collins Goodyear, Jonathan Walz, and Kathleen Campagnolo in 2016 chronicles how portraiture has changed since the invention of photographic technology. Since photography provided a relatively easy and accurate means to capture a person's likeness, painted portraits became more creative and abstract. This is a Portrait if I Say So featured many such non-traditional portraits from across the decades since photography's advent. The exhibition traced what is called the "nonmimetic turn" of portraiture— that is to say, the shift from representing people's outward appearances to representing their inward identities—back to 1839 and the invention of photography.[1]

Further exploring this phenomenon of the non-mimetic portrait, *Interface: Technology and Portraiture* examines how humans recognize and perceive others based on their facial features and how our faces form the basis of our social bonds. Our ability to recognize the faces of those around us once served to help us form and remember our relationships to others. Things are more complicated as the traditional societies, relationships, group dynamics and possibilities of portraiture are expanded and reconfigured by new media and, especially, new technologies. As the curator for *Interface*, I wanted to explore what happens under those conditions, when an artist both ignores and plays with the conventions of portraiture. What does it mean when a portrait appears to be of no one, or doesn't follow a familiar set of rules related to the capture of one's likeness? Is it still a portrait? Do we recognize it as such?

*Interface* takes this sentiment a step further. It seeks instead to understand the shifting landscape of recognition, both of the self and of others, since the dawn of digital technologies (c. 2000 CE). How have new tools, like Artificial Intelligence and Facial Recognition Software, offered artists a means to explore human recognition in unprecedented ways? How have such artists used those tools to critique the very technology that assists in the production of their work? How do they use those technologies to disrupt and reimagine the conventions of portraiture itself?

In *Interface*, five Kentucky-area artists explore a new language of representation with the aid of digital tools like Artificial Intelligence (AI) and Automatic Facial Recognition Software (AFR). Some artists use algorithms to alter celebrity faces beyond recognition, others feed data sets of existing art to AI models in an attempt to generate portraits of no one in particular. Others still create tools for understanding the very act of facial recognition or obfuscation. All have one thing in common: they wish to stretch the limits of and critique the genre of portraiture, as well as to cause viewers to question their assumptions about the genre's scope and function.

[1] Anne Collins Goodyear et al., "This Is a Portrait If I Say So: Identity in American Art, 1912 to Today," in *This Is a Portrait If I Say So, Identity in American Art, 1912 to Today* (New Haven: Yale University Press, 2016), 2.

# <Portraiture and Photographic Technologies>

To understand the dynamic relationship between portraiture and technology explored in *Interface*, one must first examine the relationship between portraiture and photographic technologies in the modern era. Photography was discovered by multiple inventors in the 1830s and became a widely accessible technology to consumers by the 1850s. By the turn of the twentieth century, devices like the Kodak Brownie camera allowed laypeople to take their own amateur photographs and to have them developed in a far-off photo-lab, removing the difficult chemical development process from photography and making the technology more convenient for consumers.[2] Over the twentieth century, analog photography went from an expensive experimental technology to an affordable mainstream hobby used by artists and novices alike.

In the twentieth century, the utility of the portrait took a dramatic shift. Photographic technology provided a means to instantaneously capture a subject's appearance. When such an affordable and relatively user-friendly technology exists, why would anyone pay to commission a realistic portrait from an artist (particularly as non-photographic portraits remained primarily attainable only to the upper classes)? Photography replaced traditional means of recording people's appearances for a wide swath of the global population, and also generated experimentation in the genre of portraiture. Anne Collins Goodyear, curator of the exhibition This Is a Portrait If I Say So, writes in the curator's essay for her exhibition that:

> "By providing a mechanical means to transcribe a sitter's physical features, photography enabled artists to focus more upon the "pictorial" qualities of their portraits… often outstripping the perceived significance of the sitter him- or herself."[3]

The authors go on to say that the events of World War I prompted what is widely considered the "disappearance" of the body and its representation in art, beginning with the pioneering Dada movement. By 1950, the dominant mode of making art in America was nonrepresentational, leading to the nonrepresentational *(or nonmimetic)* portraiture, which (as I discuss at more length in the next section) was a radical shift in the genre.

Pre-saging this disappearance of the body in art, artists like Georgia O'Keeffe in the early 20th century experimented with symbolic objects as stand-ins for their portrait subjects.[4] O'Keeffe used objects likes flowers and skyscrapers to represent people in her life, and even produced several cityscapes that represent her ex-husband, Alfred Stieglitz, that were in dialogue with his photographic portraits of her. As Vivien Fryd has explored in an essay on the topic, these "object portraits" built on an American modernist tradition that used the portrait to grapple with social and interpersonal changes brought on by the new technologies of an increasingly mechanized and urbanized environment.[5] Later in the century, artist Andy Warhol used mass-produced images of tragic popular figures like Marilyn Monroe and Jackie Kennedy, as well as anonymous images of car crash victims, for iconic colorful silkscreens that, in the words of Thomas Crow, revealed the "the open sores in American political life."[6] Warhol used brightly colored grim images drawn from reproducible media to code his pop portraits as easily duplicable and consumable commodities that were nonetheless capable of exploring the complex social problems of modern public life.

Building on photographic and print technologies, computer technologies also overlapped with the genre of portraiture in important ways. Though it is outside the scope of this essay, the history of computing intersects with portraiture beginning in the 1950s, when

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[2]Marc Olivier, "George Eastman's Modern Stone-Age Family: Snapshot Photography and the Brownie," *Technology and Culture*, Vol. 48, No. 1 (Jan., 2007), pp. 1-19
[3]Goodyear et al., "This Is a Portrait," 2.
[4]Vivien Green Fryd, "Georgia O'Keeffe's 'Radiator Building': Gender, Sexuality, Modernism, and Urban Imagery," *Winterthur Portfolio*, Vol. 35, No. 4 (Winter, 2000): 269-89.
[5]Fryd, "Georgia O'Keeffe," 278-80.
[6]Thomas Crow, 'Saturday Disasters: Trace and Reference in Early Warhol' (1996) in Andy Warhol: October Files, ed. Annette Michelson (Cambridge, MA: MIT press, 2001): 58.

the first computer-generated motion graphics were developed at the Massachusetts Institute for Technology (MIT), International Business Machines (IBM), and Bell Labs. During the 1960s, artists began to partner with computer scientists in order to use mainframe computers as a tool for making art, such as the Experiments in Art and Technology (E.A.T.) collaboration between Bell Labs engineer Billy Klüver and artist Robert Rauschenberg.[7] Many early pieces of computer-assisted or algorithmic art were abstract or non-representational, however, some evoked portraiture in significant ways. For example, Alison Knowles's conceptual work, *House of Dust* (1967), was made with Fortran code at Bell Labs and reads as a collective portrait with material, site, light source, and inhabitants assembled in a random sequence. (An example generated by *House of Dust*: "A house of brick / In Japan / Using candles / Inhabited by lovers.") [8]

With the introduction of personal computers in the 1970s, computer-generated art has become more widely accessible. Since the 1990s, perhaps the most revolutionary technological shift has been the general adoption of digital technologies and the internet. According to *Our World in Data*, 60% of the world's population was online in 2020.[9] Like photography before it, the internet has provided us with unprecedented means to produce and circulate visual culture—and circulate, we have. Australian academic journalism group *The Conversation* reported in 2020 that 3.2 billion images are shared online daily, not to mention the 720,000 hours of video also in circulation each day.[10]

The metaphorical grandchildren of the earliest art-making computers, web-based and digital tools provide a new materiality for digital artists working in the twenty-first century. Artists and graphic designers leverage software like Adobe Photoshop and Illustrator to create never-before-seen artistic expressions. VSCO, Canva, and Instagram, among other visual culture applications, make creative visual software accessible to yet more users. Increasingly ubiquitous smartphones allow us to snap quick digital photographs anywhere, itself a practical impossibility only 150 years ago. With all of this technology at our fingertips, how has our idea of the portrait changed? What has stayed the same?

A few important themes appear throughout the genre's history. While the individuals who have historically commissioned these portraits ranged from everyday people to the powerful elite, their reasons for wanting to produce such imagery are eternally relatable: legacy, remembrance, status, identity, and public image. Most cultures—past and present—practice some kind of funerary art, where the events of a person's life are written, entombed, or depicted somehow after their death with lessons for the living. From the hierarchical scale of figures in ancient Egyptian funerary art to Andy Warhol's appropriated icons of death and disaster, portraits not only speak to the great fear being forgotten, but also convey social norms or call them into question. In the exhibition *Interface*, a driving question is: how might these artworks depend upon the history of portraiture, while still commenting on its protocols and relationship to technology? What social norms do these portraits uphold or critique?

[7]Chistiane Paul, *Digital Art* (London: Thames & Hudson, 2003), 16.
[8]Bruce Grenvile and Glenn Entis, *The Imitation Game: Visual culture in the Age of Artificial Intelligence* (Vancouver Art Gallery, 2022): https://imitationgameexhibition.ca/House-of-Dust.
[9]Hanna Ritchie, Edouard Mathieu, Max Roser, and Esteban Ortiz-Ospina, "Internet," published online at OurWorldInData.org, accessed April 17, 2023, https://ourworldindata.org/internet.
[10]T. J. Thomson, Daniel Angus, and Paula Dootson, "3.2 billion images and 720,000hours of video are shared online daily. Can you sort real from fake?" *The Conversation*, November 2, 2020, https://theconversation.com/3-2-billion-images-and-720-000-hours-of-video-are-shared-online-daily-can-you-sort-real-from-fake-148630.

# <The Nonmemtic Portrait>

The artists featured in *Interface: Technology and Portraiture* look to interpret the shifting sands of identity in our online spaces, playing with representation and technology to explore how our personas have changed since the widespread adoption of digital technologies. Every artwork in this exhibition is a portrait, although many of them don't look like it. Some artworks seek to express an inner truth that eludes representation, while others are abstract because of the technology that helped generate them.

In the introductory essay for the exhibition catalogue *This is a Portrait if I Say So*, a source of inspiration for *Interface*, curator Anne Collins Goodyear explains that there are two types of portraits, or artworks depicting a person or a "sitter:" mimetic and nonmimetic. The word *mimetic*, she explains, refers to something that copies the appearance of the world around us. In other words, a mimetic portrait shows a person how they would appear, more or less, if you took a photograph of them. Their eyes, lips, and nose are all in the right place. They appear natural. This is the kind of portrait we are probably most used to seeing in everyday life; take the *Mona Lisa* or an Instagram selfie for example. The second type of portrait attempts to show a person by other means. *Nonmimetic* portraits may jumble up parts of the face in the wrong order, like in Amy M. Youngs' installation work *Micropropagation*. Nonmimetic portraits may also replace parts of the face with abstract shapes and colors like in Charles Dillon Ward's video piece *Eigenface Boogie Woogie*. Further, nonmimetic portraits may omit the face altogether, replacing it with an object, like in Chris Nelson's portrait *Paul Simon*. When a portrait uses visual features that cause the subject to appear unnatural, it can be classified as nonmimetic.

Even though they may not appear to be representations of people, nonmimetic portraits definitely attempt to resemble a person, just not their *face*. Instead, these portraits seek to encompass a "fragmentary, multiple, or ambiguous portrayal of *identity*."[11] Simply put, nonmimetic portraits are not trying to be factual on a visual level, but rather on an emotional or conceptual one. Every artwork featured in *Interface: Technology and Portraiture* is a nonmimetic portrait. These artworks tend to have a strong visual expression, causing the viewer to feel a wide range of emotions from anxiety, horror, and estrangement, to delight, wonder, and humor. Some portraits stretch the face into bright starbursts or other nonrepresentational shapes, while others are dark abstractions that show alien forms occupying the space where one would expect to find a face. Some barely alter the face, opting instead to create new shapes by mirroring facial features in kaleidoscopic vision. All of the artworks in this exhibition augment the face in some way, making them nonmimetic portraits.

While not very true-to-life on the surface, these portraits may connect with viewers on a deeper level as they investigate the complex entanglements of technologies and personhood in contemporary society. Some artworks, such as those by John Harlan Norris, were made in collaboration with artificial intelligence software. Others, including Chris Nelson's artwork, use digital photography and photographic manipulation software to create forms out of snapshots of friends and celebrities. In the case of Nelson's practice, once the artist has edited a photo to his satisfaction, an iPhone camera can no longer detect a face in the image. Although we may still be able to see traces of the face, the image confuses the very technology that helped produce it.

The artists featured in this exhibition explore the creative possibilities of computers in our current digital moment, often critiquing those technologies' negative applications in the process. These artists investigate the good side of our digital moment along with the complicated side, using nonmimetic portraiture as a means of navigating identity and representation in our rapidly changing digital landscape.

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[11]Goodyear et al., "This Is a Portrait," 5.

# John Harlan Norris:
## Artificial Intelligence and Stupidity

In the midst of the 2020 pandemic, conceptual portrait painter John Harlan Norris began creating compositions for a series of oil paintings called *Onlookers* with the help of an AI image generation model. Norris could not access his University of Kentucky art studio due to the COVID-19 lockdowns and wanted to experiment with new compositional techniques to get out of his comfort zone. The digital tool Norris landed on was an online application called Runway Machine Learning (Runway ML), a paid subscription service that requires no prior coding experience to use. Subscribers upload their own set of training data, which is a collection of information used to teach an algorithm how to produce composite outcomes. In Norris' case, the training data comprises hundreds of visual 'data points,' or individual images. A larger and more visually consistent training set (think thousands of *similar* data points) yields more accurate results; a smaller and more diverse training set (think hundreds of *different* data points) yields results that are less accurate recreations of the initial inputs.[12]

Norris initially researched how to use Runway ML appropriately, according to the first method which uses thousands of similar data points, but ultimately decided against the "appropriate" use. He opted instead to input a smaller number of images (hundreds, not thousands) that were quite visually diverse but spoke more to his creative practice.

Norris included ephemera surrounding his practice as well as previous artwork to the data set, from beloved album covers to the bright, poppy oil portraits he began with. By intentionally misusing the tool in such a way, Norris was able to create a dialogue with Runway ML and eventually produced challenging compositions that he would later go on to render in oil on canvas.

These compositions are small, square thumbnail images with a very low resolution, most of which Norris considers unusable, saying "many [of the algorithm's] results are… nothing."[13] Norris finds that the results which excite him the most are ones that show a "flicker of understanding," the goldilocks-zone between too poor and too perfect imitations. Norris intentionally seeks out these miscommunications between himself and the algorithm, leveraging what philosopher Hito Steyerl calls artificial stupidity to produce unexpected results.[14]

The artistry comes into play when Norris translates the AI's outputs from low-res thumbnail to large-scale oil on canvas. Where the thumbnail's resolution is low, Norris must add visual information in the form of squiggles, dots, or ribbons of color, typically continuing the forms already appearing in the composition. Since the digital thumbnails are also very flat, Norris must make assumptions about what textures and depth to add, often incorporating sand or other materials to alter the consistency of his paint. He notes that the AI's

[12]Sarah Brown, "Machine learning, explained," Ideas made to matter: Artificial Intelligence, MIT Management, https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained.
[13]Direct quotations by Norris were taken from my studio visit interview with the artist on September 27, 2022.
[14]Hito Steyerl and Kate Crawford, "Data Streams," *The New Inquiry,* January 23, 2017: https://thenewinquiry.com/data-streams/.

choices force him to use paint "more creatively" than he had before.

The artworks in John Harlan Norris' *Onlookers* series may use Runway ML to generate their compositions, but they rely on the data set of Norris' earlier artwork to gather their visual information. Thus, a discussion of Norris' earlier work is in order for us to understand how the *Onlookers* series came about. Norris' 2015 oil and acrylic painting titled *Ruralist* identifies its sitter not by their natural features, but rather obscures the entire bust with tools of the subject's trade. Arrows, carabiners, bandanas, camouflage, plaid, fishhooks and nets, all rendered in bright pop tones, adorn the ruralist, not an inch of skin to be seen. These items communicate the ruralist's identity without the need for a face. Signifiers of the rural lifestyle replace facial features in a humorous balance between still life and portrait.

In his 2017 work *Note to Self,* Norris takes his visual explorations a step further, omitting the subject entirely in favor of a suggested sitter. A pair of glasses float oddly in the upper right-hand corner of the artwork, seemingly gazing toward a small composition book held by a red glove in the lower left-hand corner. Because of our familiarity with posture and body language— and our uncanny human ability to recognize such patterns— no person needs to be present in the painting for the viewer to understand that the tacit subject is meaningfully contemplating their notes.

This progression from a more traditional portrait style in 2015 to a more abstract one in 2017 reaches its zenith in the 2022 *Onlookers* series, whose compositions are the product of Norris' misuse of the Runway ML program. While Norris doesn't consider his earlier body of work to be too creepy or unsettling, he hopes that viewers will find something eerie in *Onlookers*. He describes the results of his Runway ML tinkering as "ominous," although he is not sure why. Perhaps the ominous feeling comes from the intentional misuse of the AI tool, or maybe from the unpredictable hand of the algorithm making creative choices for him. Some of the uncanniness also comes from these portraits' *non-resemblance* to human beings. Norris thinks of the *Onlookers* as objects more than as people. Unlike Chris Nelson's celebrity portraiture, none of the *Onlookers* were made with a specific subject or person in mind. They are portraits of nobody in particular, which only adds to their mystery.

John Harlan Norris, *Untitled (Onlookers Series)* (Installation Shots from *Interface: Technology and Portraiture)*, 2022, Oil on linen
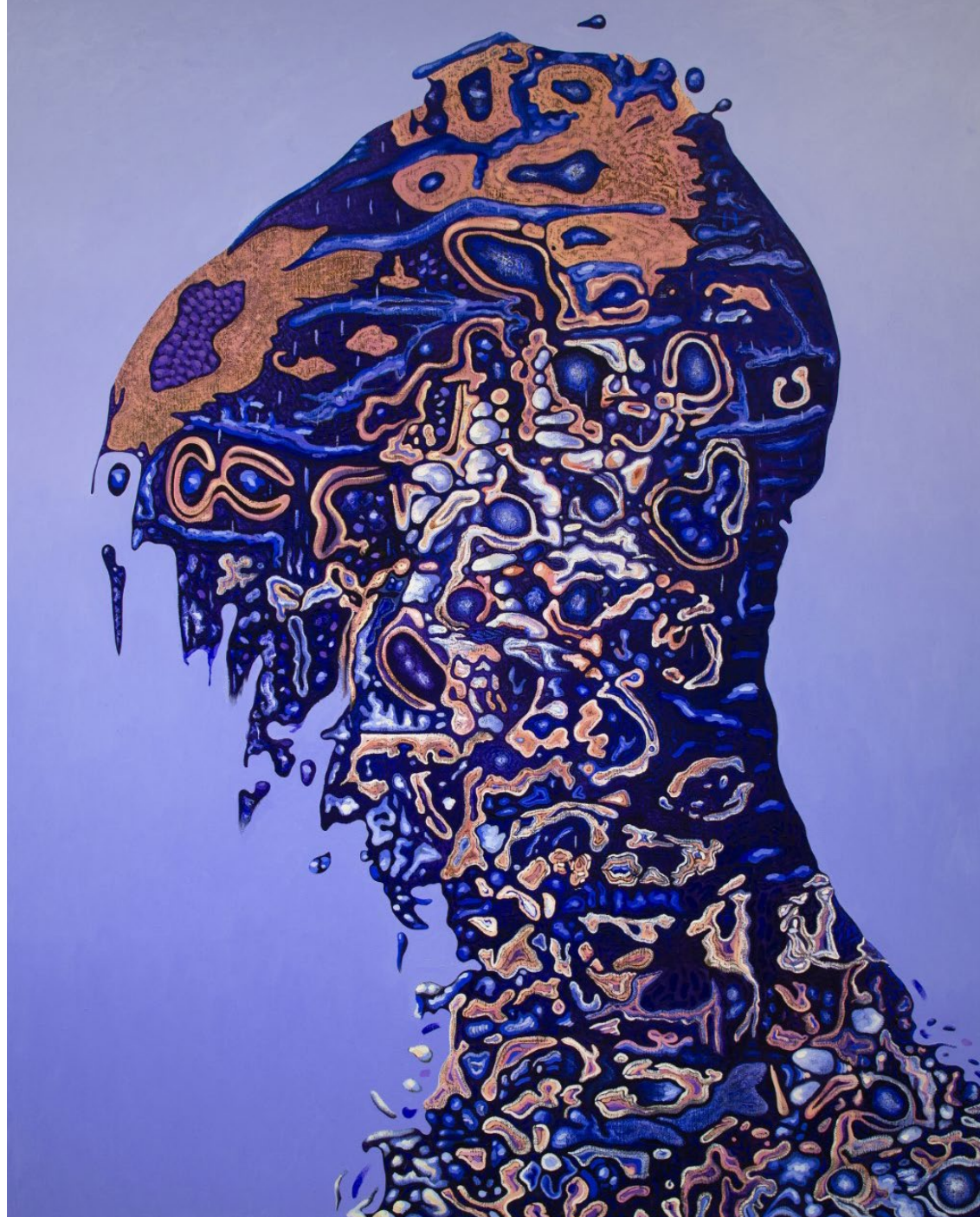
John Harlan Norris,
*Untitled (Onlookers Series)*,
2022, Oil on canvas, 36"x36"

John Harlan Norris,
*Untitled (Onlookers Series)*,
2022, Oil on canvas, 48"x48"

John Harlan Norris, *Untitled (Onlookers Series)*, 2022, Oil on linen, 48"x36"

John Harlan Norris,
*Untitled (Onlookers Series)*,
2022, Oil on linen, 36"x36"

# Chris Nelson:

## Nondeterministic Digital Portraiture

Multimedia artist Chris Nelson's portraiture focuses on celebrities. Most of his artworks are named for the people they depict, although the resemblance stops there. Kate Bush, Prince, Salvador Dali, Dwayne Johnson, Danny Devito, and Victor Wooten (which the artist says "came out especially Francis Bacon") are all present in Nelson's body of work. When asked how he chooses his subjects, Nelson replied that he is drawn to people who "look interesting" or "have interesting lives."[15] Nelson usually begins by choosing a photograph from a Google Image search, but in the case of his self-portrait and that of his partner, Laura, he uses pictures from his own camera roll on his smartphone.[16]

Since a portrait photo is the only the jumping-off point needed for his creative exploration, Nelson tries to find one that is already visually interesting, looking for outfits with bright color contrast or wild makeup and hair that can yield unexpected results. The portrait of singer *Phil Collins* is a prime example of Nelson's eye for colorful elements coming through as he translates a mimetic photograph into a nonmimetic portrait. The place where we might expect to see the smiling lead singer of Genesis instead bursts with pink floral forms behind a dark lattice. How could these be portraits of the people they claim to depict? The answer is in the algorithm: Nelson selects a strong image as a starting-off point, and then the algorithmic codes of various apps ostensibly enhance the image to produce an abstract portrait.

Once he has selected a promising photograph using google, Nelson begins layering photo-effect filters onto it. These are simple effects built into applications that can be found in any app store. Such apps (think of Instagram, VSCO, or Canva) are used by amateurs and professionals alike to edit photographs. They have features that may change a photo's saturation or add a grainy 'vintage film' effect. Using a cocktail of these computer applications that he keeps close to his chest, Nelson can also add glitch effects, mirror the image, and create fractal patterns that spiral into oblivion. These glitch aesthetics are typically associated with the failure of a computer program. Glitch aesthetics, often found in net.art, may evoke the '404: Site Not Found' error message, the endlessly cascading pop-up windows, or the "Black Screen of Death" associated with a total system failure.

While most photo-editing app users simply add a vintage film effect filter or two, Nelson takes his edits to the extreme, layering filter after filter until the original photograph is no longer recognizable as a person, let alone a specific celebrity. He plays with kaleidoscopic vision, repeated patterns, and stained-glass arrangements to distort the face. The results are dynamic works that play with color, shapes, and visual expression to abstract the people who initially inspired them.

Some artworks, like *Phil Collins*, manifest as a fully abstract portrait. Nelson began with a photograph of Collins wearing a hot-pink blazer knowing it would make for a colorful final product. In the original, the singer grips a microphone stand with both hands, facing toward a dramatic spotlight that illuminates him from the left shoulder down. The photo is full of tension, drama, and color, but Nelson only sees this as his starting point. He describes his process as "sitting around

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and playing" with images of celebrities to comment on assumptions of knowability.

The complete and edited *Phil Collins* fashions pink forms out of the wrinkled fabric of the singer's blazer. All resemblance to Collins is gone, with no recognizable facial features remaining for us to identify the singer by. Instead, pink and orange forms open like the petals of a flower in all directions, framed by a dark hexagonal lattice of varying thicknesses. Each section is a clean break from its neighbor, reflecting features from the original across different angles. The dark background produces a high contrast between the floral forms in the center, adding depth and drama.

Similar to John Harlan Norris' artistic practice, Nelson's process is in direct dialogue with the technology he uses to produce his work. The applications Nelson uses are considered nondeterministic, meaning that their outcomes are truly unpredictable, both to the user and programmer. Nondeterministic algorithms can exhibit different behaviors or results across multiple runs, even when the inputs remain the same.[17] The nature of a *nondeterministic* algorithm is to make a change, but the change is a random game of chance. And yet the outcomes are also determined or ordered by the artist's selection process. Should Nelson dislike a change his app suggests, he need only tap the undo button to revert to the version of the portrait that existed before that change was made. Each portrait exists because of numerous binary decisions, a simple choice between "keep this change" and "undo."

Nelson is often surprised by the outcomes of his tinkering. Since there is an element of uncertainty built into the tools he uses, Nelson is able to surrender some creative license to relative randomness. When asked how he decides when a portrait is edited to his satisfaction, Nelson replied that he "finds digital art appealing because the undo button exists," implying that one step too far is easily reversible. This play between randomness and order that has long fueled contemporary artist's engagement with computer technology (dating back at least to Robert Rauschenber's revolutionary E.A.T. project at Bell Labs) finds new iteration in Nelson's portraits.[18]

[17]"nondeterministic algorithm," AI Glossary, AI for Anyone, accessed April 13, 2023, https://www.aiforanyone.org/glossary/nondeterministic-algorithm.
[18]Branden Wayne Joseph, *Random Order: Robert Rauschenberg and the Neo-Avant-Garde* (Cambridge, MA: MIT Press, 2003), 279.

Chris Nelson, (Installation Shots from *Interface: Technology and Portraiture)*, 2022, digitally manipulated photography

Chris Nelson, *Missy Elliot*, 2022, digitally manipulated photography, 13"x19"

Chris Nelson, *Self Portrait,*
2022, Digitally manipulated photography 13"x19"

Chris Nelson, *Laura,*
2022, Digitally manipulated photography 13"x19"

Chris Nelson,
*Victor Wooten,*
2022, Digitally manipulated
photography 13"x19" (left)



Chris Nelson, *Salvador Dali,* 2022, Digitally manipulated photography 13"x19" (above)

Chris Nelson, *Gabriel Garcia Marquez,*
2022, Digitally manipulated photography 13"x19"



Chris Nelson, *Phil Collins,*
2022, Digitally manipulated photography
13"x19"



Chris Nelson, *Frank Zappa,*
2022, Digitally manipulated photography
13"x19"

Chris Nelson, *Kate Bush,* 2022, Digitally manipulated photography 13"x19"

Chris Nelson, *George Duke,* 2022, Digitally manipulated photography 13"x19"

Chris Nelson, *Philip K. Dick,* 2022, Digitally manipulated photography 13"x19"

Chris Nelson, *Peggy Gou,* 2022,
Digitally manipulated photography 13"x19"
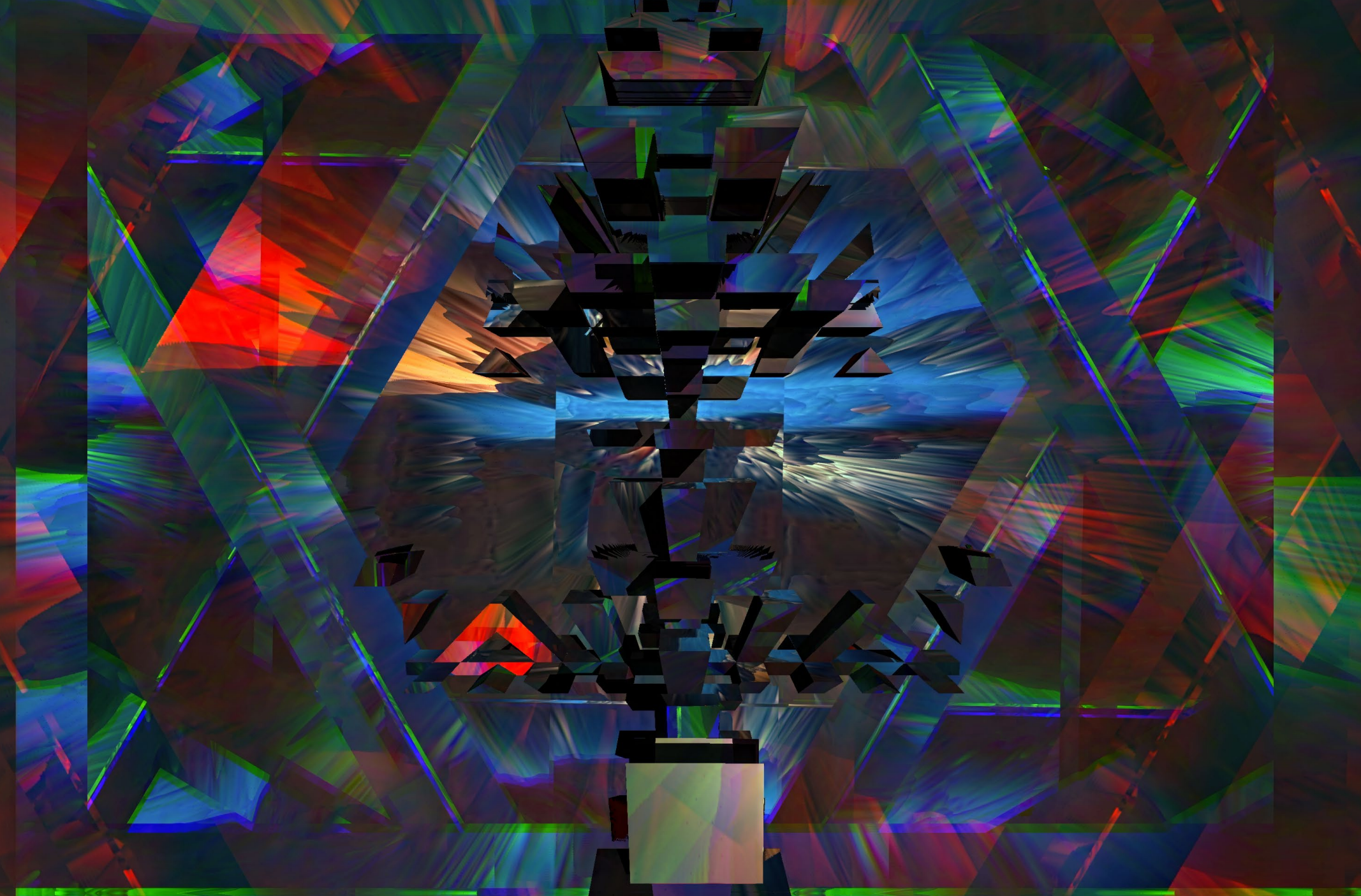
Chris Nelson, *Dolly Parton,* 2022,
Digitally manipulated photography 13"x19"

Chris Nelson, *JPEGMAFIA*, 2022, Digitally manipulated photography 13"x19"

# Charles Dillon Ward:

## Facial Mis-Recognition Software

In his video work *Eigenface Boogie Woogie* (2020), video artist Charles Dillon Ward attempts to see as a computer does, using an iPhone camera's facial recognition abilities to zoom in and out of different subject's facial features. As the video begins, we hear a slowed-down rendition of *Daisy Bell*, the first song ever sung by a computer and programmed by IBM in 1961.[19] The augmented song plays ominously in the background of the video work, harkening back to the earliest days of computer experimentation. We then see close-up shots of disjointed parts of a man's face: first his left eye, then his static smile, and his right eye. As the camera pans around it, overlaid multicolor fields jitter with digital fervor across the screen. When the camera recognizes a face, a yellow square appears, helping the software to focus on the face's details. The video blurs in and out of pixellation as the camera tries to focus. Gradually, the color fields begin to coalesce into compositions reminiscent of graphic Piet Mondrian paintings.

As the video plays on, the iPhone incorporates more faces and takes them to the museum. Instead of hanging the Mondrianesque forms over a face, the phone now overlays faces onto famous Mondrian paintings. The faces blur into view over painting after painting in an art exhibition, then over models wearing the famous Yves Saint Laurent Mondrian dress, culminating in a digitally rendered gallery of faces over art and art over faces, when finally, a combination of the two over blank mannequin heads. The new faces—made from a combination of facial signifiers and graphic elements—reimagines the face in the wrong order: eyes where the chin should be and brows where the cheeks should go. An ever-present grid divides the screen into nine sections, giving the impression that we are seeing through a distorted camera lens. Rainbow Moiré patterns flex in and out of the screen as the pixels don't seem to line up quite right. We are left with the image of a disjointed face overlaid on an expressionless mannequin as the video ends.

Ward playfully describes this video work as an iPhone turning "boring facial recognition surveillance exercises into opportunities to express itself like its favorite painter: Piet Mondrian."[20] He personifies the iPhone camera, imagining it as having both the capacity for boredom and the agency for artistic experimentation. While computer science has not advanced to a point where computers can be considered autonomously "creative," Ward imagines what that future could look like with an optimistic view. He de-centers humans as the only origins of creativity, asking whether our process of copying others, transforming their work, and combining ideas is unique to humans or could extend to other beings as well.

Although Ward's interpretation of computational creativity may show an optimistic vision of the future (much like the utopian visions of Mondrian's designs), but the Artificial Facial Recognition Software

[19] Cary O'Dell, "*Daisy Bell (Bicycle Built for Two)"—Max Mathews, John L. Kelly, Jr., and Carol Lochbaum (1961)*, Essay, From Library of Congress, added to registry in 2009, accessed April 12, 2022, https://www.loc.gov/static/programs/national-recording-preservation-board/documents/DaisyBell.pdf.
[20] Charles Dillon Ward, "Eigenface Boogie Woogie Video Description," Vimeo, accessed April 28, 2022, https://vimeo.com/378860873/9e56929f5a.

(AFR) has fraught implications and applications that are implied by the disorienting disjointed face of *Eigenface Boogie Woogie*. In 2017, Apple introduced the Face ID feature to iPhones and iPad Pros, which allows users to unlock their phones with a quick scan of the face rather than a password or thumbprint.[21] Our faces are only the most recent piece of biometric data to become public, calling into question the privacy of our most public-facing feature. The ever-present yellow square that dances around each face in *Eigenface Boogie Woogie* references an iPhone's facial recognition abilities. Like other computational processes discussed, AFR is programmed to utilize a training data set comprised of thousands of faces to recognize new ones. When it identifies a face, AFR is doing so based on this training. It seeks eyes, a nose, and lips where they ought to be.[22]

The data sets used to train facial recognition software are made up of photographs of real people, often found on the internet. Programmers must compile a source of thousands of clear photographs of human faces to train these systems. There is perhaps no greater database for perfect data set images than social media sites such as Facebook, Instagram, TikTok, and Snapchat, among other examples. Unbeknownst to most, our public family photos can be used by third parties to train AFR programs.[23] Until 2021, Facebook was known for its auto-tag face recognition software, which autonomously connected users with their names in photographs. These tags appeared in without their consent or concern for who uploaded the photo, causing a major privacy problem.[24] Today the technology continues to advance, as law enforcement in certain countries begins to adopt smart glasses designed with real-time AFR capabilities to surveil people in public. The glasses aid in making arrests of wanted persons, revolutionizing our discipline-based society to one of control.[25] Ward's *Eigenface Boogie Woogie* speaks to both the allure and apprehension surrounding the increased prevalence of such technologies in our daily lives.

[21] Aryan Surendranath, "Apple Face ID 5 years later: how it evolved," *pocketnow*, published April 9, 2022, https://pocketnow.com/apple-face-id-5-years-later-how-it-evolved/.
[22] Thorin Klosowski, "Facial Recognition Is Everywhere. Here's What We Can Do About It," *The New York Times*, July 15, 2020, https://www.nytimes.com/wirecutter/blog/how-facial-recognition-works/.
[23] Alexis C. Madrigal, "Posting your kids' pictures online may set them up for future facial recognition," *Quartz*, Published May 14, 2014, https://qz.com/209037/posting-your-kids-pictures-online-may-set-them-up-for-future-facial-recognition.
[24] "Facebook to no longer use facial recognition for photos and videos," *The Irish Times*, Published November 2, 2021, https://www.irishtimes.com/business/technology/facebook-to-no-longer-use-facial-recognition-for-photos-and-videos-1.4717347.
[25] Josh Chin, "Chinese Polica Add Facial-Recognition Glasses to Surveillance Arsenal," *The Wall Street Journal,* February 7, 2018, https://www.wsj.com/articles/chinese-police-go-robocop-with-facial-recognition-glasses-1518004353.

Charles Dillon Ward, *Eigenface Boogie Woogie (*(Installation Shot from *Interface: Technology and Portraiture)*, 2020, Video, 3:41
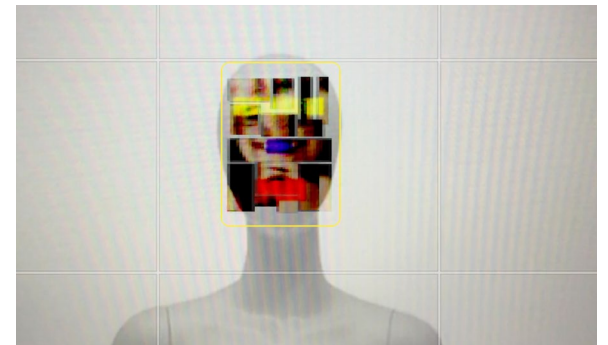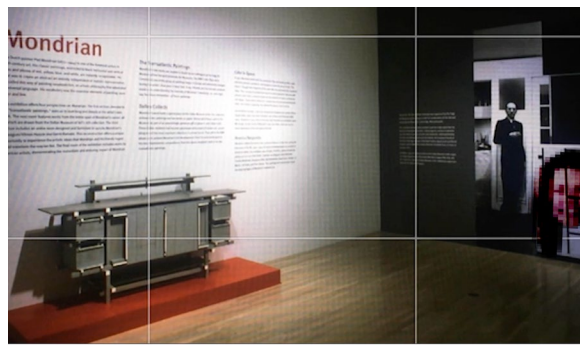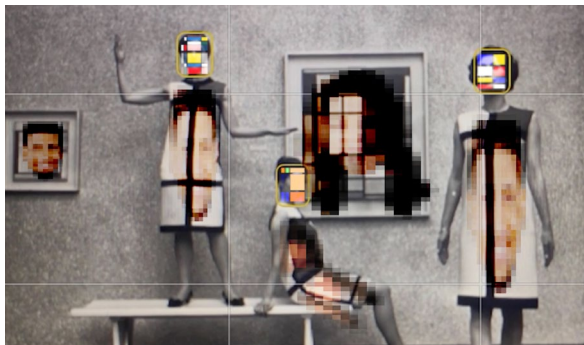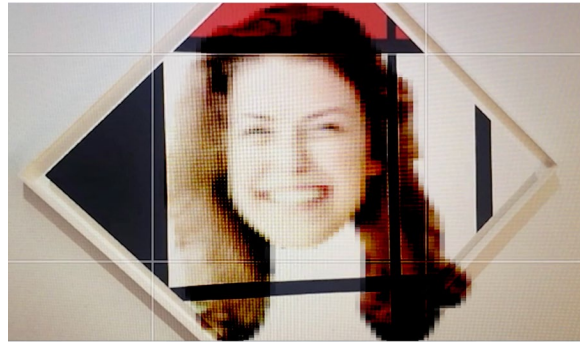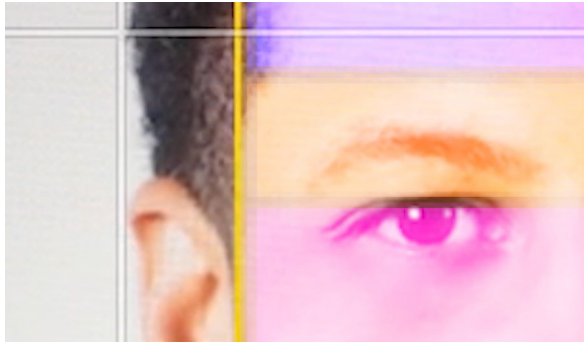
Charles Dillon Ward, *Eigenface Boogie Woogie (Screen-captures)*, 2020, Video, 3:41

Watch Online

# Siavash Tohidi:
## The Face of Augmented Reality

*Digital Skin/Face Paint (2020)*, designed in part by Siavash Tohidi, is perhaps the most nontraditional artwork among those featured in *Interface*. A technological device in its own right, *Digital Skin/Face Paint* (Abbreviated *DFP*) consists of a motorbike helmet, an Intel camera, a projector, and several custom-made components. It is a device that can bring our Snapchat filters into the real world by projecting a digital mask onto the face of a wearer. Tohidi developed the device in partnership with University of Kentucky professors Dr. Daniel Lau (UK Department of Computer Engineering) and Dr. Michael Winkler (UK Department of Radiology).

*Digital Skin/Face Paint* utilizes a spatial augmented reality system to project its masks. The motorbike helmet base is fitted with a specially-designed and posable anglerfish-style arm. The end of the arm houses an Intel RealSense SR300 camera that tracks the wearer's face in real time, detects facial feature points, and warps a template image around those points to create a projected mask. *DFP's* facial recognition software utilizes a point cloud made up of eigenvectors (points assigned to facial features), which is a technology not unlike that used for iPhone facial recognition software. Since the SR300 camera sees in the invisible NIR range, it does not perceive the projected mask and thus does not risk confusing itself. The program also recognizes and cuts holes in the mask's eyes to avoid blinding the wearer with projected light.[26]

From a computer attached to the helmet by a cable, Tohidi first sources an image from the internet. Typically, he opts for a scary Pennywise the clown face or a sugar skull fit for *Día de Muertos*, choices which perhaps speak to trepidation surrounding certain potential usages of these technologies. He enters the image into his specially designed software, and it is then projected it in real-time upon the human subject's face. The result is a jittery image that works better on flesh-and-blood faces than on plaster mannequin heads. Tohidi himself has attempted to make a perfect plaster copy of his face, complete with matching skin tone and facial hair, yet the computer program still prefers a human face.

*Digital Skin/Face Paint* began as a medical project, hence the intersection of disciplines between radiology, computer programming, and digital art. Tohidi points out that for medical students to learn certain routine medical procedures, they have no choice but to learn on a living patient. For some procedures, for example intubation, students must insert a tube down the throat of a patient for the purpose of alleviating nausea after a surgery. This process has a high likelihood of going wrong. The tube may go down the patient's windpipe, choking them. Intubation typically takes multiple attempts even when done by a trained professional, and has a high likelihood of causing the patient intense discomfort and vomiting. There is virtually no other way for medical students to learn the process than practicing on an actual patient. That is, until *DFP* came along.

Tohidi's team aims to alleviate the painful learning process associated with certain medical procedures by designing a projection system to be used on models of the body. *Digital Skin/Face Paint* is intended to be fixed onto a transparent plastic facsimile of the neck, complete with anatomically correct locations of the esophagus and

26 Siavash Tohidi, "Digital Skin/Face Paint, 2019-20," siavashtohidi.samexhibit.com, accessed April 12, 2022, https://siavashtohidi.samexhibit.com/digital-skin.

windpipe. Tohidi imagines that once this technology is perfected, students will be able to see exactly where they are putting the tube, complete with green and red flashing lights to indicate correct and incorrect placements. Ideally, this technology could have countless applications to a myriad of training scenarios. Tohidi intends to expand the project in the future with a wearable projection system designed for the torso. *DFP* could be used on a cadaver to indicate different organs during a dissection, to practice different procedures on artificial bodies, or even to indicate the location of different organs on a living body, so that students may learn to accurately locate the heart, kidneys, lungs, etc. on a living, breathing patient.

While the goal of *DFP* is to provide a tool for medical training, Tohidi also nurtures the philosophical and artistic aspects of the device. Interested in the space between the digital and physical, Tohidi sees *DFP* as having "a trace of both," augmenting the appearance of the body with nothing more than carefully placed light. There are many technologies people can use to augment our appearances, from makeup and tattoos to piercings and cosmetic surgery. While these technologies range from semipermanent to permanent, Tohidi is interested in *DFP*'s relatively ephemeral nature. Unlike makeup, where a physical pigment must be applied and then scrupulously removed, *DFP* alters the face's appearance with a flash of light, disappearing as soon as the projector is powered down. Unlike John Harlan Norris, who thinks of the AI he uses for his compositions as a tool and thus not part of the artwork, Tohidi considers the "periphery" (that is to say, his computer, code, camera projector, helmet, and 3D-printed casings) of *DFP* to be a part of the artwork itself. The mask that *DFP* projects is not the only product— the helmet and technology are also important aesthetic components of the artwork.[27] However, both artists produce perhaps unsettling portraits of facial recognition entering even the most intimate arenas of daily life. While also similar to Chris Nelson's

work, *DFP* augments the face in real time while Nelsons' artworks utilize a photograph taken in the past, but both with the same goal: to reimagine identity and perception using the face as a canvas.
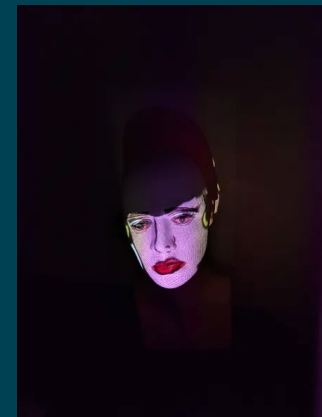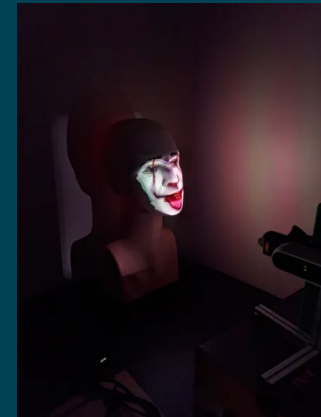
3D digital mask created by OpenCV using an Intel depth sensor. The mask is then projected onto the face using a smart laser beam projector. the eyes are cropped so that the projector does not project directly into the eyes.

27 Most of the information in this section was given to me verbally by Siavash Tohidi himself during our studio visit on October 12, 2022. Any specific information about the device was verified according to *Digital Skin/Face Paint*'s entry on Tohidi's portfolio website, https://siavashtohidi.samexhibit.com/digital-skin.

Siavash Tohidi (In collaboration with Dr. Daniel Lau and Dr. Michael Winkler)*, *Digital Skin/Face Paint* (Installation Shots from *Interface: Technology and Portraiture.*) 2019-20, Intel RealSense SR300 Camera and projector mounted on motorbike helmet with custom-build attachment, 3-D resin-printed housing, and 3-D filament-printed parts

Siavash Tohidi (In collaboration with Dr. Daniel Lau and Dr. Michael Winkler)*, *Digital Skin/Face Paint,* 2019-20, Intel RealSense SR300 Camera and projector mounted on motorbike helmet with custom-build attachment, 3-D resin-printed housing, and 3-D filament-printed parts

View Process Video

# Amy M. Youngs:

## Bio-Portraiture

Working in the area of photographic manipulation, Amy M. Youngs conceives of humanity's possible futures through scientific speculation. Her *Micropropagation* (2003) series features digitally altered photographs of humans and organic matter. Youngs calls the series a "visual exploration into the idea that humans could be cultivated in the same manner in which we cultivate plants and animals—to suit our own needs."[28] *Micropropagation* is the science and practice of rapidly growing, multiplying and manipulating plant tissue in petri dishes, so Youngs depicts her experimental subjects as if they were cell cultures under study in a laboratory. Her series of ten round prints on Sintra board focuses on heads and faces because she perceives a human's greatest natural resource to be its problem-solving brain. Most compositions in *Micropropagation* feature bilateral or radial symmetry and focus on the human head, cut off just beneath the eyebrows.

Youngs' teeming portraits opt to represent their sitters by their forehead in rings or as a bisected cell in a process suggestive of meiosis. The subjects of these images come from photographs of the foreheads of people in Youngs' life, including the heads of family, friends, and fellow artists. Youngs combines these photographs with natural forms using Adobe Photoshop and Illustrator, professional-grade photo editing applications. Profile busts take on the texture of a moonflower seed pod or the shape of an acorn. Youngs teases that each plant form she uses in *Micropropagation* has a relationship to the sitter it is combined with, although it is an association known only to her.

The sterile white backgrounds of the artworks suggest a clean lab sample being observed beneath a microscope, and we get the sense that we are witnessing biological becoming before our very eyes. These artworks experiment with a spectrum of human likeness, producing uncanny results. The bisected heads are closer to what we could recognize as a portrait, while the radial donuts of skin and hair resemble spiraling Fibonacci forms found in nature. In comparison to the other artworks featured in *Interface*, Youngs barely modifies the face, evincing that little change is needed to create an unrecognizable form with the facial signifiers we are already accustomed to.

Youngs' speculation about future humans may be improbable, but it speaks to many issues surrounding genetic manipulation today. We already genetically modify the vegetables we eat, the animals we breed, the resources we use for building materials, and even our own offspring. In 1987, CRISPR (short for *clustered regularly interspaced short palindromic repeats*) technology hit the scene, a genetic editing tool that allows researchers to precisely cut and thereby manipulate animal or plant DNA.[29] The technology was relatively unassuming until it made headlines in November 2018 after genetic researcher He Jiankui used it to genetically engineer two human embryos to be immune to HIV-1 (among other genetic alterations). The babies, named Nana and Lulu, are still alive today and by all accounts perfectly healthy.

[28] Amy M. Youngs, "Micropropagation," hypernatural.com, accessed April 29, 2022, https://hypernatural.com/portfolio/micropropagation/
[29] "What is CRISPR-Cas9?" Facts: Methods and Technology, yourgenome.org, last modified February 8, 2022, https://www.yourgenome.org/facts/what-is-crispr-cas9/.

He Jiankui's actions however were widely condemned and considered unethically premature, and he was charged with a fine and sentenced to prison in 2019, from which he was released in April 2022.[30]

The scientific community is not the only ethical battleground for such genetic manipulation. In 2000, Brazilian-American bio-artist Eduardo Kac worked with French geneticists to engineer a rabbit that glowed when exposed to blue light. The artist used a fluorescent protein found in a variety of jellyfish to produce the glowing effect. Alba the rabbit died in 2002, and the cause of death is unknown.[31] In the wake of this controversial work, many ethical questions remained about the use of DNA manipulation for aesthetic purposes. *Micropropagation* is in a direct conversation with this school of bio-art that seems to prioritize aesthetic and conceptual experimentation over ethical considerations. Youngs considers much of bio-art to fall into one of two philosophies: one that Youngs views as anthropocentric, or regarding humankind as central over animals and other life forms, and another that decentralizes the human experience, which Youngs prefers to practice.

*Micropropagation* asks what it would be like if our genetic meddling turned inward, and how we would feel if we were the ones being modified to align with plant aesthetics instead. Would the act of turning ourselves into plant-human hybrids be so far from editing our children's genes for the sake of their health or culturally determined beauty ideals? Armed with technology like CRISPR, could we become posthuman, or even transhuman? *Micropropagation* asks these questions while positing a possible solarpunk aesthetic of the future: clean, green, and metamorphosing. Operating between the twin poles of optimistic idealization and pessimistic warning, Youngs asks us to consider how new bio-technologies may free or doom us, depending upon your perspective.

[30] Dennis Normile, "Chinese scientist who produced genetically altered babies sentenced to 3 years in jail," *Science.org*, published December 30, 2019, https://www.science.org/content/article/chinese-scientist-who-produced-genetically-altered-babies-sentenced-3-years-jail

[31] Kristen Philipkoski, "RIP: Alba, the Glowing Bunny," *Wired*, August 12, 2002, https://www.wired.com/2002/08/rip-alba-the-glowing-bunny/.
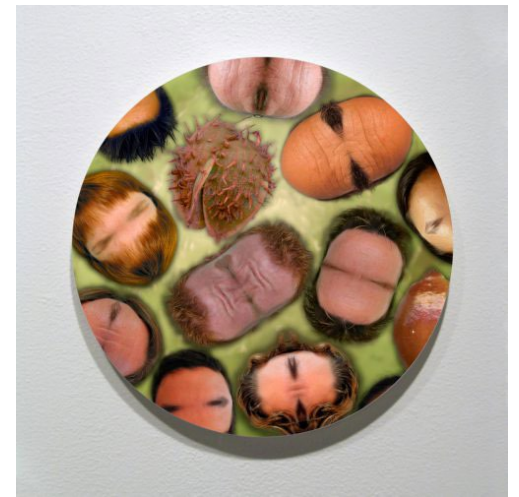
Amy M. Youngs, *Micropropagation Series,* 2003,
Digitally manipulated photographs mounted on Sintra board, 11' x 7' installation

Amy M. Youngs, *Micropropagation Series* (Installation Shots from *Interface: Technology and Portraiture*), 2003,
Digitally manipulated photographs mounted on Sintra board, 11' x 7' installation

# &lt;Conclusion&gt;

Through their ingenuity and wit, the artists featured in *Interface: Technology and Portraiture* explore the delicate balance between help and harm that comes built into any new technology. While it is important to educate ourselves and question new digital prospects, artist Siavash Tohidi deems that it is "too late to ask some questions about the negative applications" in respect to the amount of power and control afforded by tools like AFR. These technologies have already become intimately intertwined in our daily lives. And yet, many leaders in the tech industry in 2023 are asking for a pause on the development of AI in order to ask important questions about potential risks and the need for certain safeguards related to ethical concerns.[32] There are always two sides to tech—the utopian and dystopian—and these artists point out the important role art plays in that dynamic. They explore the reflexive relationship between art, technology, and expression. They also employ portraiture to critique the state of tech today while using digital tools to critique the genre of portraiture and its conventions/assumptions. Beyond criticism, these artists investigate myriad possible futures as well as the limitations of our contemporary moment, engaging ethical and metaphysical philosophies along the way and causing us to question our posthumanist moment.

[32]Laurie Clark, "Alarmed tech leaders call for AI research pause," Science Vol. 380, Issue 6641 (13 April 2023): 120-21.

# &lt;Exhibited Works Checklist&gt;

**Exhbited Works Checklist,**

**\<John Harlan Norris\>,**
- **——>** John Harlan Norris, *Untitled (Onlookers Series),* 2022, oil on linen, 36" x 36"
- **——>** John Harlan Norris, *Untitled (Onlookers Series),* 2022, oil on linen, 48" x 48"
- **——>** John Harlan Norris, *Untitled (Onlookers Series),* 2022, oil on linen, 48" x 36"
- **——>** John Harlan Norris, *Untitled (Onlookers Series),* 2022, oil on linen, 36" x 36"

**\<Chris Nelson\>,**
- **——>** Chris Nelson, *Missy Elliot,* 2022, digitally manipulated photograph, 19" x 13"
- **——>** Chris Nelson, *Self Portrait,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Laura,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Victor Wooten,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Salvador Dalí,* 2022, digitally manipulated photograph, 19" x 13"
- **——>** Chris Nelson, *Gabriel Garcia Marquez,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Phil Collins,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Frank Zappa,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Kate Bush,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *George Duke,* 2022, digitally manipulated photograph, 19" x 13"
- **——>** Chris Nelson, *Philip K. Dick,* 2022, digitally manipulated photograph, 19" x 13"
- **——>** Chris Nelson, *Peggy Gou,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *Dolly Parton,* 2022, digitally manipulated photograph, 13" x 19"
- **——>** Chris Nelson, *JPEGMAFIA,* 2022, digitally manipulated photograph, 13" x 19"

**\<Charles Dillon Ward\>,**
- **——>** Charles Dillon Ward, *Eigenface Boogie Woogie,* 2020, Video, 3:41

**\<Siavash Tohidi\>,**
- **——>** Siavash Tohidi (In collaboration with Dr. Daniel Lau and Dr. Michael Winkler)* *Digital Skin/Face Paint,* 2019-20, Intel RealSense SR300 Camera and projector mounted on motorbike helmet with custom-build attachment, 3-D resin-printed housing, and 3-D filament-printed parts

  - **——>** *This piece was made in partnership between the School of Art and Visual Studies, the Department of Electrical and Computer Engineering, and the Department of Radiology at the University of Kentucky

**<Amy M. Youngs>,**

| ––> Amy M. Youngs, *Micropropagation Series,* 2003, digitally manipulated photographs mounted on Sintra board, 11' x 7' installation

| ––> *Interface: Technology & Portraiture* curated by Sydney Mullins was on view at the Lexington Art League in Lexington KY from January 20 - March 10, 2023.

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