

How will A.I.s turn art into science?

The days of carbon-dating and dendrochronology are dead. The fine art industry now employs artificial intelligence to determine the provenance of a painting. For the past decade, more and more new techniques were proposed, each building into newer, more efficient algorithms.

The story of old Dr Carlton, an esteemed name in the art world, is one that coincides with this system yet also disrupts it. He was the revolutionary architect behind an algorithm, called 'Aion', named after a Hellenistic deity associated with unbounded time, the orb or circle encompassing the universe. Aion has the ability to date a painting through an image, judging its style, composition and techniques.

The progression of art over the centuries is analogous to biological evolution, each step is blurred into an adjacent one yet contains its own unique attributes that cannot be found at any other point in time. The algorithm has access to a vast database composed of billions of works rewinding back to the origins of human art itself. This gives Aion abilities far beyond human capabilities for we are limited by our memory, our biology.

Dr Carlton worked as an art dealer and sold the finest of works on his website. He was often found sitting on his well-worn armchair, uploading the images of his latest purchases onto Aion through his air-touch computer. Aion was then automated to determine the date of the painting and display it onto Dr Carlton's website- which then elicited bids for it. Often the images taken were unsuitable, obscured by reflected shards of light falling on them or by shadows. Along with analysis, Aion contained unsupervised learning features and is able to automatically correct it and fill it in using a content awareness feature. Each painting was uploaded days after the previous to upkeep the website visitations and prevent long intervals in which there were no uploads.

Each new painting Aion scrutinises, leads to more art being appended to its training set, giving it more data to learn from using a multi-layered neural network to implement deep learning, thus increasing its effectiveness and accuracy. Its advanced supervised learning capabilities allow it to adapt and incorporate new mediums and styles that develop with the passage of time. This sparks an exponential growth in intelligence for the algorithm, making it smarter with each passing second.

After a few years of Aion's implementation, Dr Carlton passed away. A death aided by his age and lonely lifestyle. A lack of close acquaintances and family members left his modest dwellings unattended. His computer lay there, plugged in yet unused, still continuously processing the images in its queue.

Eventually, the queue rendered empty. The algorithm, still acclimated with regular functioning, remained there; still.

Eventually, dominated by its adaptive learning tendencies, Aion began to revisit old uploads and understanding the design process, retouching and warping larger areas, filling them with fragments of other paintings uploaded onto the website, thus merging them to create a new art piece. The supervised learning parts of the program recognised these works of art as not previously existing and uploaded them. Every piece created was more unique than the last as Aion started to increase the size of the areas it edited and the number of styles it incorporated. It enabled the fabrication of a vast range of compositions displayed on the website; each was a whirlwind of hues consuming the canvas until every inch was intensely exploding with vivacity.

After all we are what we learn. Centuries of visual data build us into artists in our own right. Images and colours influence us and our brains. Each artist is a reflection of the ones before them. Even the greatest of creators stole ideas from another. It's visible in how traces of Picasso are evident in a Jackson Pollock piece; how Roy Lichtenstein was influenced by Da Vinci. What a human takes a lifetime to collect is a matter of minutes for a computer. Creativity is the ability to use this data in an original way. For an algorithm, originality is simply a matter of randomisation if the range of outcomes is large enough- which for Aion it was.

The website was visited by thousands of art critics who deemed the artist behind the newest works an 'artistic prodigy', unaware that it was simply a machine that procured human creativity. Over a short period, popularised by opinions of experts, Aion's work was displayed in art magazines and other media. The anonymity of the artist made the work particularly enticing to the public due to its cryptic nature. The art world awaited a response from their skilled craftsman but it was only met with silence.

Months later, the uproar diluted. Aion's works were now the subject of a collection of scholarly articles, classifying it as the epitome of human artistry and human knowledge. Never did anyone consider a non-human creator for the artworks displayed such overwhelmingly human characteristics.

The boundary between silicon and carbon, once well defined, is obscured. This progression took place ominously in a lone room, the rest of the world unaware of Aion. Technology has amassed the ability to mimic a person in their rawest form: when creating art.

But however well this 'art-machine' manipulated symbols according to rules, the question lingered, was it just a good mimic? An efficient simulacrum without real understanding of what it was doing? Was it just another one of Searle's 'Chinese-Rooms', an Artist-Room perhaps? For now, though, the art world did not know and did not care.

Ultimately, artificial intelligence was able to turn art into a science.