Fast Company

DJ Pangburn,
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First, can you talk a bit about your artistic background?

I come from a fairly purist art background having gone to the Slade school of art (UCL), London. It was quite a traditional fine art school which placed a lot of emphasis on the critical underpinning of the artwork, which was a very valuable, although sometimes a tough environment to be in. I had to fight to create work using technology which wasn't merely demonstrating what was possible, but instead had a more profound and poetic message.

When did you start working with algorithms in your art, as well as ones that featured machine learning technology?

I suppose I've always had a deep interest in using systems and technology in my art. When I was a kid I was obsessed with algorithmically drawing symmetrical patterns. This then expanded into creative software, such as Photoshop and Cinema 4D and then on to more advanced creative software.

When doing my foundation at Central St Martins I became interested in creating my own programs to visualise ambient sound or the social connections on my facebook profile. On my foundation in Chicago I was able to develop these programming skills and create generative art. In Berlin was where I first got properly introduced to the natural progression of this line of enquiry - handing agency over to the computer as much as is currently possible - this was on Gene Kogan's course using Machine Learning as a creative tool at the School of Machines Making and Make-belief.

Ever since then I have wanted to push and explore machine learning techniques as I feel it's very philosophically rich area.

What techniques and processes did you use in creating your artwork for Gradient Descent?

For my piece 'Closed Loop', I pitched two AI's against each other in a perpetual conversation, a never ending feedback loop. I created an environment in which a model which has been trained to describe what it sees in images using language, converses with another model which has been trained to generate images from scratch interpreting the input text. One is fed into the other and then vice versa. The language model (Densecap) was trained on millions of hand captioned images which is then able to infer what the machine sees in new images. The image generating model (PPGN) has been fed 14 million photographs (a standard dataset - Imagenet). It can then create new images from scratch, referencing the features it has learnt from analysing and

gathering meaning from images of thousands of objects. These are both open source models available online, I have written a program which lies on top to get them to converse with each other.

After working on this artwork, did you gain any insights into art created in collaboration with artificial intelligence? In other words, what did you learn from working with AI in this show?

I feel the work called into question my preconceptions of agency. I, as the artist, had no idea what images and text was going to emerge. I decided to never edit or curate the output allowing the machine to often go off on strange and mysterious tangents which weren't necessarily perceivable to a human spectator. This relinquishing of control was what exited me about this piece and collaborating with a machine.

Did you learn anything new about the interplay between humans and AI more generally?

It's such an extensive, forever-extending and important field and I feel I'm constantly considering new aspects of our relationship to AI and how its going to effect us all. I feel its important to develop a more wholistic understanding of the field, considering the ethical, political and philosophical implications, as well as understanding the technical underpinning which makes the new developments possible, and of course how it can call into question everything we believe we understand about human creativity and consciousness.