Syntropic Counterpoints : Art of AI Sense or Machine Made Context Art

Predrag K. Nikolić
Cheung Kong School of Art
and Design
Shantou University
predrag@stu.edu.cn

Hua Yang
Cheung Kong School of Art
and Design
Shantou University
huayang@stu.edu.cn

Jyunjye Chen
Department of Mechatronic
Engineering
Shantou University
junjiechen@stu.edu.cn

George Peter Stankevich
Cheung Kong School of Art
and Design
Shantou University
georgeps@stu.edu.cn

Figure 1: Robosophy Philosophy (A) Ethic Robot (blue) and Overman Robot (red), (B) Screen projected discussion between AI philosophers clones, (C) Visitors are exposed to the content which is done based on cold calculations and algorithms.

CCS CONCEPTS

• **Applied computing → Media arts**;

KEYWORDS

Artificial Intelligence, robot-robot interaction, intelligent interactive artifacts, art of AI sense, machine made context art, interactive media art, interaction design.

1 INTRODUCTION AND MOTIVATION

Project Syntropic Counterpoints has been conceptualized in the form of a series of discussions between artificial intelligence (historical persons) clones, related to topics we want to expose to AI interpretation. The project is an artist response to rising technology singularity and emerging Artificial Intelligence implementation in every aspect of everyday life which changes the social interaction landscape forever. With this project we intend to point to questions

such as: Are we using AI to make humans smarter or to create a new living entity equal to us? How will this reflect on human society and its present planetary supremacy? Can we share the world and accept equality with a new AI living entity? What could be the consequences of that decision? We are also trying to point to AI limitations and to examine the cultural, creative, historical and social benefits we can gain by using AI.

2 OUR APPROACH

In our approach, we are combining art and technology to create intelligent interactive artefacts which are trained to generate content as part of an artwork's creative concept and expression. Unlike the usage of AI as a medium to support or imitate human creativity and behavioral patterns such as Sougwen Chung's creative collaboration with her robot, our approach is to liberate and explore its creative patterns through the robot's interactions, such as in Philip Galanter's intelligent light sculptures titled Xepa. For the first robot-robot discussion,interactive media artist Predrag K. Nikolić created the art installation *Robosophy Philosophy: Ubermensch and Magnanimous* (https://goo.gl/zhRXTY). He allowed the philosophical standpoints of Aristotle (Magnanimous) and Nietzsche (Übermensch) to confront one another and used their cyber clones to run debates considering various topics. The art Installation *Robosophy Philosophy: Ubermensch and Magnanimous* tends to criticize ongoing cultural and social changes which are the result of interactions between people and technology. The installation was exhibited at SIGGRAPH Asia 2017 in Bangkok and attracted significant audience attention. It enticed them aesthetically as well as with the generated content they had a chance to hear, read and collect at the exhibition.The Central characters of this interactive socio-critical

drama are the Ethic and Overman Robots. The first one is fed with knowledge collected from Aristotle's Nicomachean Ethics, Poetics, Politics, Metaphysics and second one from Nietzsche's Thus Spoke Zarathustra, The Antichrist, Beyond Good and Evil, The Gay Science, The Birth of Tragedy and Ecce Homo. The two robots are composed of two part, the body, and the head. The body is made of a plastic human torso and impressed metal segments. It is a metaphor for a cyborg, half human half machine, and a futuristic vision of a hybrid society with human-robot mental and physical equality. The head is made of a screen and a Raspberry Pie computer which is connected to the internet with the Brain – an AI philosopher clone. The discussions between clones can be read on the small screens the as well as listened to through speakers installed inside in the bodies of the robots (Fig.1). The artwork's cyber clones are developed as a combination of chatbot technologies and Recurrent Neural Network (RNN) models[Karpathy 2015]. It applies model enabled reinforcement learning toward the creation of artificial conversational agents with human-level performances. In the artwork Robosophy Philosophy: Ubermensch and Magnanimous, Predrag K. Nikolić had used two neural conversational agents. The RNN was trained with Nietzsche's and Aristotle's collected publications so the RNN could model the probability distribution of the next character in the sequence given the sequence of previous characters. A standard Softmax classifier [Sof [n. d.]] and mini-batch Stochastic Gradient Descent [Uns [n. d.]] were used. Thus, generated new text, one character at a time. The chatbot technology was applied as conversation base for Neural Network Nietzsche's and Aristotle's models to develop neural Nietzsche's and Aristotle's Cyber Clones. Those avatars have been deployed to two separated internet access points. Using a Raspberry Pi device, robots were connected with their cyber clone's access points (the Brains) and enable philosophical discussions between two robots using neural chatbots, speech recognition, and speech synthesis technologies. As a result, the dialogues were generated such as following example:

NIETZSCHE: *the newspaper actually steps into the place of culture and he who even as a scholar wishes to voice any claim for education must avail himself of this viscous stratum of communication which cements the seams between all forms of life all classes all arts and all sciences and which is as firm and reliable as newspaper is as a rule.*

    ARISTOTLE: *It has a further use in relation to the ultimate bases of the principles used in the several sciences. NIETZSCHE: the reference is not to pope but to Hegel*

    ARISTOTLE: *Therefore pleasure also is not continuous; for it accompanies activity*

    NIETZSCHE: *Christian too is a certain cruelty toward one's self and toward others hatred of unbelievers the will to persecute.*

3 CONCLUSION AND FUTURE DIRECTIONS

Predrag K. Nikolić artwork *Robosophy Philosophy: Ubermensch and Magnanimous* presented within the project Syntropic Counterpoints has the intention to point out the particular questions we would like people to think about and consider about the future of artificial intelligence development and integration in society. Equally, in the project is offered a new type of creative content made by robots and opportunities to use it in future artistic expressions

and knowledge development. Key novelties in creative practice presented in this work are the use of AI cyber clones as a creative and artistic medium, the involvement of human-less creative processes into artwork creation, the use of robot-robot interactions as a new interactive technique leading toward the future Art of AI Sense.In the future development of the project, we will continue to create new *"Syntropic Counterpoints"* for debates between cyber clones. The Next artworks planned are *Botorikko: Machine Created State*, conceptualized as a discussion between Sun Tzu's and Niccolo Machiavelli's clones about politics, diplomacy, war, and strategy. *Delicatessen Bricolage: Art of AI Cooking*. The clones' discussion will be about cooking in Europe before Marco Polo and traditional Asian cuisine. Visitors will be served with meals made by AI clones and their human assistant during the debates. Also, we tend to improve AI technology and methods to augment the artificial intelligence conversational agents' performances together with the content and context they are generating, and move toward a new aesthetic of AI created beauty.

REFERENCES

[n. d.]. Softmax Regression - Ufldl. http://ufldl.stanford.edu/wiki/index.php/Softmax_Regression. ([n. d.]). (Accessed on 01/03/2018).

[n. d.]. Unsupervised Feature Learning and Deep Learning Tutorial. http://ufldl.stanford.edu/tutorial/supervised/OptimizationStochasticGradientDescent/. ([n. d.]). (Accessed on 01/03/2018).

Andrej Karpathy. 2015. The unreasonable effectiveness of recurrent neural networks. *Andrej Karpathy blog* (2015).