ARS INCOGNITA

POETICS OF ARTIFICIAL CREATIVITY
SYMPOSIUM ON ART AND ARTIFICIAL INTELLIGENCE

CÓRDOBA, 15, 16 Y 17 DE MARZO / 2018
C3A Centro de Creación Contemporánea de Andalucía

INTRODUCTION

Machine Learning, a branch of Artificial Intelligence where computers learn to solve problems, is now applied in virtually all areas of social life, including marketing, games, insurance, search engines, online movie and book recommendations, machine translation, trading, etc.
The need for both public understanding and participation in technological changes that affect all of our lives in profound and wide-ranging ways is more urgent than ever. In this context, artistic work can provide new perspectives on how citizens can critically explore and interact with these new technologies.
How should artists respond to the widespread presence of technologies whose internal operation is opaque to most people?

The symposium is structured in these research areas:

Visualization. Scientists themselves are already developing innovative ways to visualize different aspects of machine learning. The aim is to understand those technologies better and to communicate with non-specialists. Their visualizations are not only scientific tools. They can also be considered as artistic projects in their own right. The urgency of visualization in this area has generated an interdisciplinary space between science and art.

Experimentation. Artists and art historians are experimenting with the potential of machine learning to provide new instruments for artistic creation and analysis. Their aim is to discover how these technologies can change how we produce and analyze art. One important way in which artists engage with technological black-boxes is to explore their potential uses through experimental action. This line of work is closely connected to the development of a "maker" culture in media art. Artists insist on making their own creative instruments, and they look at artificial intelligence as a potential system of artistic tools.

Critique. Artists and humanists are increasingly considering the social and ideological aspects of machine learning. Many of these aspects and consequences are not intended by those who design these technologies. Questions here involve the impact of machine learning on gender, sexual identity, race, and class, for instance in the form of data-based discrimination. Machine learning implementations often produce models of users, and these models embody broader patterns of economic and cultural power.

Ars incognita poetics of artificial creativity is a symposium bringing together artists and scholars to consider these three aspects of machine learning. With a hybrid research and education focus, we aim at drawing the attention of artists, researchers, and the general public to critical issues around machine learning.

Structure of the symposium
Dates: March 15 Macrh 17

Thursday, March 15

Introductory remarks (17:00 18:00)
Alvaro Rodriguez Fominaya, Artistic Director of Centro de Creación Contemporánea de Andalucía C3A
Richard Allen, Dean of the School of Creative Media, City University of Hong Kong
Hector Rodriguez, Symposium Director

Session one: Machine Learning and its artistic applications

18:00 -19:00 Guillermo Moncecchi, *Machine Learning as an Artist's Toolkit*
An introduction to the idea of machine learning, and the nature of the problems that Machine Learning can tackle, illustrating them with examples from Art and Culture.

19:00-20:00 Luba Elliott, *Artificial Intelligence in Art and Design; an Overview*
A general overview about applications of machine learning in art and design, presenting examples of cutting edge work in various fields.

20:00 Welcome cocktail and visit to exhibitions

Friday, March 16

Session two: Artistic uses of Deep Neural Networks

This session describes how artists and scholars are using a specific family of Machine Learning algorithms, those involving deep neural networks.

9:00-10:00 Gene Kogan, *Visualization and AI*
A description of the relationship between Machine Learning and visual thinking, drawing on examples from the work of the speaker.

10;00-11:00 Mario Klingemann, *Instruments of Creation: Making art with deep neural networks*
A reflection on the ways machine learning techniques involving deep neural networks can be used as new instruments of artistic creation.

11:00-11:30 Break

11:30-12:30 Albert Barqué-Duran, *How can Artificial Intelligence Collaborate with Humans in Artistic and Creative Processes?*
An introduction to the project "Artificial Muse" as well as some of the speaker's own research on moral judgment in digital technologies.

12:30-13:30 Anna Ridler, *Generative Adversarial Networks in art*
A description of the use of a cutting edge technique in AI, known as Generative Adversarial Networks (GANs), and their use in art, illustrated with examples from the speaker's own work in drawing and animation.

13:30-15:00 Lunch

Session three: Reconsidering the artistic archive

15:00-16:00 Jolibrain and Fabrica, *Recognition: Working with art collections*
Fabrica: Coralie Gourguechon, Monica Lanaro, Angelo Semeraro
Jolibrain (France): Alexandre Girard and Emmanuel Benazera

A presentation of the work of the Jollibrain company, and their collaboration with a team from Fabrica, Italy, who produced the Recognition system to explore the Tate art collection using Artificial Intelligence, winner of the IK Prize 2016 for Digital Innovation.

16:00- 17:00 Pilar Rosado Rodrigo, *Computer vision models and semantic image analysis for the analysis and generation of art works*
Overview of the use of computer vision models for the analysis of visual style of Antoni Tapies and other contemporary artists, and also for the purpose of generating new artworks.

17:00-18:00 Hector Rodriguez, *Computational models and the cinematic Archive*
A reflection on the application of computational methods to the analysis of cinematic art and the production of found-footage installations.

18:00-18:30 Break

Session four: Technological black-boxes

18:30-19:30 Thom Miano, *Sound-to-image. (Open call presentation)*
This project explores the use of deep convolutional neural networks in building a real-time environmental sound classifier that can be plugged into a visualization generator for real- time visualizations of predicted sounds.

Performance
20:30-21:30 *Ellos.* Performance-Concert by Tomas Laurenzo. Venue: The Black Box.

Saturday, March 17

Session five: Machine Learning in Context

10:00-11:00 Sandra Álvaro, *Intelligent Machines Analyzing/Producing Culture (open call presentation)*
How algorithmic technologies manage our online interactions and cultural production.

11:00-12:00 Tomas Laurenzo, *Artificial Ideology*
A social and political discussion of Artificial Intelligence (and art).

12:00-13:00 Javier de Felipe, *Mapping the brain*
An overview of our current knowledge of the brain, paying particular attention to methods that make possible the mapping of the human brain.

Concluding remarks
13:00-13:45 Alvaro Rodriguez Fominaya, Hector Rodriguez, Tomas Laurenzo

Symposium Participants

Richard Allen works in the areas of film theory, the philosophy of film, and Bollywood cinema. His first book, Projecting Illusion (Cambridge University Press, 1997), articulated a sophisticated version of the illusion theory of representation as a basis for defending a psychoanalytic conception of spectatorship. In addition, he edited, with Murray Smith, one of the first anthologies of analytic film theory, in the philosophical sense of "analytic," entitled Film Theory and Philosophy (Oxford University Press, 1999). Without relinquishing a belief in the value of conceptual clarity within humanistic inquiry, his work has moved towards a revised conception of theory that is manifest in Wittgenstein, Theory, and the Arts (Routledge, 2001), co-edited with Malcolm Turvey. He is the author of Hitchcock's Romantic Irony (Columbia University Press, 2007) that examines the relationship between sexuality and style in Hitchcock's work. Since 2001 he has edited, with Sid Gottlieb, the Hitchcock Annual (Columbia University Press). He is currently Dean of the School of Creative Media of the City University of Hong Kong.

Sandra Álvaro holds a European Doctorate in Philosophy from the Universitat Autònoma de Barcelona, and is also a new media artist. Her research work revolves around the definition of the contemporary post-digital situation, with a particular focus on artistic production and theory and participatory urban design. To this end, she studies the material conditions and social processes linked to technological innovations such as the Internet of Things, data visualisation, and digital fabrication. She has carried out projects and participated in international workshops at the Institute for Pure and Applied Mathematics at UCLA and the Laboratoire Paragraphe/CITU, University Paris 8, and taught in the Roy Ascott Studio BA in Technoetic Arts at De Tao Masters Academy in Shanghai. She has published in refereed journals such as the Technoetics Art Journal (Intellect) and Artnodes and has participated in numerous international congresses including CAC 2016 (Paris), ISEA 2015 (Vancouver), Re-new 2013 (Copenhagen) and the CR13 International Research Conference.

Albert Barque-Duran is an artist and postdoctoral research in cognitive science at the City University of London. His research concerns new approaches and frameworks for cognitive modelling and judgment and decision-making. His artwork and performances are inspired by his research and combine classical techniques from fine arts such as oil painting, data, digital arts and experimental electronic music. He has exhibited and performed at Sónar+D (Barcelona), Creative Reactions (London), Cambridge Neuroscience Society (Cambridge, UK), Max Planck (Berlin), and the SciArt Center (New York).

Luba Elliott is a curator, artist and researcher specialising in artificial intelligence in the creative industries. She is currently working to educate and engage the broader public about the latest developments in creative AI. As curator, she organised workshops and exhibitions on art and AI for The Photographers' Gallery, the Leverhulme Centre for the Future of Intelligence and Google. Prior to that, she worked in start-ups, including the art collector database Larry's List.

Javier de Felipe is a neuroscientist who leads the Cajal Blue Brain project, which is part of the international Blue Brain project. He is co-director of the division of Molecular and Cellular Neuroscience of the Human Brain Project. He has received many international awards, including the Krieg Cortical Kudos Award granted by Cajal Club for his contributions to the study of the cerebral cortex. He is also an honorary member of the American Association of Anatomists.

Coralie Gourguechon is an interdisciplinary designer & researcher working with user interfaces, experience design, interactive installation, and physical computing. She was one of 30 creatives selected for the ADC Young Guns Award 2016 and has been granted residencies at Hors-Pistes, Aterlier Luman, Ideo Munich, and Fabrica, where she was one of the key participants in the Recognition Project at the Tate.

Jolibrain (Alexandre Girard and Emmanuel Benazera) is a company based in Toulouse, France, specializing in open-source involving real-world applications of machine learning for industries that range from large Cybersecurity players to top Art institutions, AI hardware startups and manufacturers, Aerospace leaders and machine learning startups around the globe. They have created the open source deep learning API and server DeepDetect as well and developed the software for the Tate Recognition exhibition together with a team from Fabrica (Coralie Gourguechon, Monica Lanaro, Angelo Semeraro)

Mario Klingemann is an artist working with algorithms and data. He investigates the possibilities that machine learning and artificial intelligence offer in understanding how creativity, culture and their perception work. He also works with digital cultural archives like the British Library's, the Internet Archive's or the collection of the Google Arts & Culture where he currently is artist in residence.

Gene Kogan is an artist and a programmer who is interested in generative systems, computer science, and software for creativity and self-expression. He is a collaborator within numerous open-source software projects and has given many workshops and lectures about the relationship between code and art. He initiated ml4a, a free book about machine learning for artists, activists, and citizen scientists, and regularly publishes video lectures, writings, and tutorials to facilitate a greater public understanding of the subject.

Monica Lanaro studied Arts Management at Ca' Foscari University in Venice and at the Université de la Bretagne Occidentale in Quimper, France. She worked in the organizing secretariat office of the Dedalo Minosse Prize and later for the Festivaletterature in Mantova and the Peggy Guggenheim Collection in Venice. She is currently a project manager at Fabrica, where she participated in the Recognition project with Coralie Gourgechon, Angelo Semeraro and Jolibrain.

Tomas Laurenzo is an artist, designer, and computer scientist who works with both physical and digital media exploring the artistic construction of meaning and its relation with power and politics. He works in various areas, including interactive art, music, live cinema, physical computing and installation. He is Assistant Professor at the City University of Hong Kong. He previously was Assistant Professor at the Universidad de la Republica (Uruguay), where he founded and directed the Media Lab. He has held residencies at Microsoft Research, Carnegie Mellon University, INRIA, etc.

Thom Miano is a research data scientist at RIT International where he currently builds imaging software using computer vision techniques. He has experience in applied machine learning research and development, working largely in healthcare and education and also produces mixed and multimedia art. He is interested in machine (and biological) learning, realtime multi-modal sensor networks, image and signal processing, generative systems, and human-computer interaction.

Guillermo Moncecchi is Under-Secretary for Industry, Energy, and Mining of the Republic of Uruguay. He has a doctorate in Computer Science from the Univeristé Paris Quest, specializing in natural language processing and machine learning. He has taught in the Engineering Faulty of the Universidad de la Republica (Montevideo) and has over 20 years of experience in software development.

Anna Ridler is an artist and researcher whose practice brings together technology, literature and drawing to create both art and critical writing. She works with abstract collections of information or data, particularly self-generated data sets, to create new and unusual narratives in a variety of mediums, and how new technologies, such as machine learning, can be used to translate them clearly to an audience and to talk about other things - memory, love, decay. She has degrees from the Royal College of Art, Oxford University, University of Arts London and has shown at a variety of cultural institutions and galleries including Ars Electronica, Sheffield Documentary Festival, Leverhulme Centre for Future Intelligence, Tate Modern, Centre Pompidou and the V&A.

Hector Rodriguez is a digital artist and theorist whose work explores the unique possibilities of computational technologies to reconfigure the history and aesthetics of moving images. His animation Res Extensa received the award for best digital work in the Hong-Kong Art Biennial 2003. His 2012 video installation Gestus: Judex received an achievement award at the Hong-Kong Contemporary Art Awards and was a jury selection of the Japan Media Art Festival. He received a commendation award from the Hong-Kong Government for his contributions to art and culture in 2015. He was Artistic Director of the Microwave International Media Art Festival, and is now a member of the Writing Machine Collective. He currently teaches at the School of Creative Media, City University of Hong-Kong.

Alvaro Rodríguez Fominaya is Artistic Director of the C3A and faculty at large of School of Visual Arts SVA (New York). He served from 2011 15 as the curator in charge of collections and exhibitions at the Guggenheim Museum Bilbao, where he also founded the film and video gallery. From 2008 to 2011, he served as executive director/Curator of Para/Site Art Space, Hong-Kong; and between 2002 to 2008, he served in successive positions at Centro Atlántico de Arte Moderno (CAAM), Spain. In addition to his curatorial work, Fominaya has been a consultant lecturer at Sotheby's Institute of Art, Singapore, part-time lecturer at City University of Hong-Kong's School of Creative Media, and program leader of the Para/Site Art Space-Hong Kong Jockey Club Curatorial Training Program.

Pilar Rosado Rodrigo has a Ph.D. in Fine Arts and Biology and currently teaches at the University of Barcelona. She has published many essays on the relationship between computer vision and artistic analysis, about the application of semantic-based image analysis methods for artistic creation, and about experimental poetry and urban art.

Angelo Semeraro received a B.Sc. degree in Computer Science from the University of Bologna and an M.Sc. degree in Computer Science from the University of Bologna and the Universidad Complutense de Madrid. He is currently interaction designer at Fabrica. His work has been exhibited at the Mobile World Center (Barcelona), the Playful Inter-action: MAXXI, (Rome), the Biennale of Architecture (Venice), and the International Expo (Shanghai).

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