What happens when Artificial Intelligence and Human Creativity meet?



List of Contributors

Pierre Baqué

Co-founder and Ceo @Neural Concept

Lausanne, Switzerland

Pierre received an engineering degree in Applied Mathematics and a Masters degree in Operations Research (Combinatorial Optimization) from Ecole Polytechnique in Paris. He started his career working as an Engineer for Credit-Suisse in London, where he developed numerical optimization and statistical analysis tools in the Equity Derivatives division.

In the same period, Pierre started working on algorithmic optimization for engineering and co-developed the software CarmenV2 for optimization in ropeways engineering.

Pierre then joined the Computer Vision Laboratory at <u>EPFL</u> where he got his doctoral degree in early 2018 under the supervision of Prof. Pascual Fua and Francois Fleuret. His research focused on Deep Structured Learning and Variational Inference applied to Computer Vision. During his PhD, Pierre worked on shape optimization problems using Deep-Learning and on multiple topics related to 3D Deep-Learning. He is the author of multiple papers in top conferences in Machine Learning, optimization and related fields.

As a result of his doctoral thesis, Pierre took the leap as an entrepreneur and founded <u>Neural Concept</u> in 2018 with his former thesis advisor. He is now leading the company and still very active in the research field through many collaborations with EPFL.

Why did we want to talk to him?

To ask him how the work of a designer who uses AI changes, to know whether AI is simply a tool or if he can collaborate at greater depth in the design of new products, to understand how constraints change in the design phases thanks to the power of calculation and machine learning.

Ivana Bartoletti

Technical Director @Deloitte and Co-founder @Women Leading in AI London, UK

<u>Ivana Bartoletti</u> is Technical Director at Deloitte, a public speaker, author and media commentator. In her day job, Ivana helps businesses with their privacy by design programmes especially in relation to Artificial Intelligence (AI) and blockchain technology. Ivana was awarded 'Woman of the Year' (2019) in the Cyber Security Awards in recognition of her growing reputation as an advocate of equality, privacy and ethics at the heart of tech and AI. She is a sought after commentator for the BBC, Sky and other major broadcasters and news outlets (Guardian, Telegraph) on headline stories where the tech economy intersects with privacy and data law and politics. In May 2018, Ivana launched the Women Leading in AI network, an international lobby group of women advocating for responsible AI. The network's 2018 report garnered <u>mass interest</u> from tech leaders, international institutions and the media.

Why did we want to talk to her?

To go into some depth on the concept of ethics, to ask her what our powers and responsibilities are respecting relationships between human beings and AI and to understand what obstacles there are for disseminating AI knowledge as well as how to overcome them.





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Sofia Crespo

Artist Berlin, Germany

<u>Sofia</u> is an artist working with a huge interest in biology-inspired technologies. One of her main focuses is the way organic life uses artificial mechanisms to simulate itself and evolve, this implying the idea that technologies are a biased product of the organic life that created them and not a completely separated object. On the side, she is also hugely concerned with the dynamic change in the role of the artists working with machine learning techniques.

Why did we want to talk to her?

To discuss the role of those who produce art using AI, to understand how new mechanisms are unleashed during the creative process, to talk about how emotions continue to play a lead role, to understand whether the role of the artist is changing and, if so, how.

Stephanie Dinkins

Transmedia Artist

New York, USA

<u>Stephanie Dinkins</u> is a transmedia artist and professor at Stony Brook University where she holds the Kusama Endowed Chair in Art. She creates platforms for dialog about artificial intelligence as it intersects race, gender, aging, and our future histories. She is particularly driven to work with communities of color to co-create more equitable, values grounded artificial intelligent ecosystems. Dinkins' art practice employs lens-based practices, emerging technologies, and community engagement to confront questions of bias in AI, data sovereignty and social equity. She exhibits and publicly advocates for inclusive AI internationally at a broad spectrum of community, private, and institutional venues – by design. The New York Times featured Dinkins in its pages as an AI influencer. Apple Inc recognized Dinkins' research and community-centered efforts by featuring her as a local hero in their "Behind the Mac" ad campaign (Brooklyn, NY edition). Wired, Art In America, Artsy, Art21, Hyperallergic, the BBC, Wilson Quarterly, and a host of popular podcasts have recently highlighted Dinkins' art and ideas.

Why did we want to talk to her?

To understand whether AI can help us build a fairer and more participative society, to ask ourselves how we can render AI ever less beholden to the prejudices of algorithm designers, to better understand AI's more or less hidden risks and to develop a more evolved concept of ethics.

Mario Klingemann

Artist Munich, Germany

<u>Mario Klingemann</u> is an artist who uses algorithms and artificial intelligence to create and investigate systems. He is particularly interested in human perception of art and creativity, researching methods in which machines



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can augment or emulate these processes. Thus his artistic research spans a wide range of areas like generative art, cybernetic aesthetics, information theory, feedback loops, pattern recognition, emergent behaviours, neural networks,cultural heritage data or storytelling.

He was artist in residence at the Google Arts & Culture Lab, winner of the Lumen Prize Gold 2018, the British Library Labs Creative Award and has been recognized as a pioneer in the field of AI art. He has collaborated with artists like Nick Knight, Massive Attack and Yacht. His work has been featured in art publications as well as academic research and has been shown in international museums and at art festivals like Ars Electronica, the ZKM, the Photographers'Gallery, Collección Solo Madrid, Nature Morte Gallery New Delhi, the State Hermitage Museum, the Barbican, Mediacity Biennale Seoul, the British Library, the MoMA, or the Centre Pompidou.

Why did we want to talk to him?

To see the creative process that collaborates with AI at work, to discuss how neural networks and algorithms interpret the data we choose for them and that help us have a different perception of reality, to discuss the feelings we have in front of art created with AI.

Suzanne Livingston

Strategy Consultant and Co-Curator @Barbican Centre / AI: More than Human London, UK

Dr. Suzanne Livingston was co-curator of the Barbican Centre's blockbuster "AI: More than Human" exhibition, now on its international tour. She has spent her career researching and questioning the entwined relationship between humans, culture and technology and the philosophical consequences emerging from that. Taking a multidisciplinary approach, Suzanne has worked globally across sectors spanning technology, arts, museums, education and business. As Head of Strategy and then Global Principal at Wolff Olins, Suzanne developed strategy and exhibitions internationally with cultural organisations such as the V&A, London Olympics 2012, The Guardian, Whitney Museum of American Art, ICA Boston, Qatar Museums and Southbank Centre and also with technology companies including Sony Worldwide, Native Instruments, Reuters, Playstation and Ericsson. Suzanne received her PhD in Philosophy (focusing on cybernetics) from the University of Warwick, in the UK. She now works independently as a strategist and continues to write and give talks on technology, belief systems, innovation and evolution.

Why did we want to talk to her?

To understand whether AI is a tool or if it can inspire, and change, the creativity of artists, to understand how AI amplifies our imagination, to redefine a concept of contemporary aesthetics whilst observing the public reactions of those who find themselves in front of AI.

Arthur I. Miller

Emeritus Professor, University College London (UCL) London, UK

London, or

<u>Arthur I. Miller's</u> ground-breaking theory of creativity applies to both humans and machines. He explains it in his recent book The Artist in the Machine: The World of AI-Powered Creativity (MIT Press, 2019). He goes on to focus





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on AI-created art, literature and music. He explores how machines will be able to acquire the characteristics of human creativity - inspiration, suffering, being 'out there' in the world, focus, perseverance, discovering new problems and being unpredictable. To do this machines will have to evolve emotions and consciousness. In the course of this research Miller interviewed over a hundred leaders in the field. These extraordinary people imparted their insights and struggles in creating machines that can improvise jazz, write surreal prose and produce unimaginable art.Miller suggests that while we should keep in mind the question 'Can machines be creative and create art?', we should also ask 'Can we learn to appreciate art we know has been created by a machine?' Miller's books include Einstein, Picasso (nominated for a Pulitzer Prize), Empire of the Stars (shortlisted for the Aventis Prize) and Colliding Worlds. Miller writes for the Guardian, The New York Times and Wired, and is professor emeritus at University College London. An experienced broadcaster and lecturer, he has judged art competitions, curated exhibitions on art/science and writes engagingly about complex social and intellectual dramas, weaving the personal with the scientific to produce thoroughly-researched works that read like novels.

Why did we want to talk to him?

To understand if machines can create art, to analyse the kind of art that can be generated by man-machine collaboration, to ask ourselves whether, as human beings, we're able to appreciate the art produced by Artificial Intelligence or collaborate with it.

Ali Nikrang

Key Researcher & Artist @Ars Electronica Futurelab

Linz, Austria

<u>Ali Nikrang</u> is a Key Researcher & Artist at the <u>Ars Electronica Futurelab</u>. He has his background in both music and technology. He studied computer science at the Johannes Kepler University and composition at the university Mozarteum in Salzburg, Austria. At the same university he also obtained a diploma in concert piano performance. His work involves the interaction between human and AI systems with focus on creative applications. It includes the investigation of creative outcomes of AI systems and how it can be leaded, enhanced and personalized through interaction with human user. As a classical musician and AI researcher, he was involved in numerous projects that combine artificial intelligence and classical music. His work has been shown in various exhibitions and conferences around the world and has been part of television and radio documentaries about AI and creativity.

Why did we want to talk to him?

To hear music generated by a meeting between human creativity and the potential of AI, to discuss the artist's role as well as how s/he can leverage these new tools, to understand which new horizons are opening up within the musical creation and composition world and to see the union between artist and engineer at work.

Obvious Art Collective

Paris, France

<u>Obvious</u> is a Paris-based collective of artists, researchers and friends, focused on using Artificial Intelligence to create Art. Their approach invites the art lover to consider and evaluate the similarities and distinctions between the yet to be understood mechanics within the human brain, such as the un-replicable creative process, and the





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ones of an algorithm. They wish to emphasis on the parallel between the input parameters used for training an algorithm, and the expertise and influences that craft the style of an artist. Most of all, they lead the viewer to focus on the creative process: an algorithm best functions by replicating human behaviour, but it learns using a path of its own. They also bring forward the broader question of the place of technique in art. Until now, technique was used as a means of expression for the artist. For the first time, the artist takes a step back to place its technique into the light, and let it shine as a distinct entity. Obvious universally questions the subject by introducing to the world art which has been created with an AI algorithm.

Why did we want to talk to them?

To see how an artistic collective is confronted daily by the potential of AI, to witness its creative use thereof, to discuss who or what -between man and machine- is the artist, as well as the relationship that can be established with the public.

FOR MORE INFO

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