Digital Design Weekend
Saturday 22 – Sunday 23 September 2018
10.30–17.00

Image: Embarrassed Robots, Soomi Park
Digital Design Weekend

A weekend of free events exploring Artificial Intelligence, human-machine interactions, and potential future worlds.
The Digital Design Weekend coincides with *The Future Starts Here* exhibition and the London Design Festival at the V&A.

*The Future Starts Here* exhibition is supported by Volkswagen Group.

The Artificially Intelligent publication, supported by Mozilla and AHRC/University of Glasgow Digital Transformations Theme, and designed by John Philip Sage, will be available online with free copies distributed during the event.

Events marked with an asterisk are supported using public funding by the National Lottery through Arts Council England.
Artificially Intelligent*
*Room 220, Sackler Centre for arts education
Friday 7 September - 31 December
Artificially Intelligent explores our complex relationships with technology and AI, provoking questions about the state of these relationships and our interactions with machines.
*With: Katriona Beales, Kate Crawford, Vladan Joler, Fabio Lattanzi Antinori, Anna Ridler, Nye Thompson, Caroline Sinders, Maral Pourkazemi and Cecilie Waagner Falkenstrøm.

This Happened #29, Liable Algorithms
*The Lydia and Manfred Gorvy Lecture Theatre, Level 4
Saturday 22, 11.30-13.15
Naziha Mestaoui, Tobias Revell and more discuss real-world impacts of AI and algorithmic biases. The same way absolute objectivity doesn’t exist, a bias-free AI appears impossible. How does this information translate itself in fields such as our criminal system, biology or the arts? And how do we measure the impact these biases have on real individuals?

Design in the Age of Artificial Intelligence*
*The Lydia and Manfred Gorvy Lecture Theatre, Level 4
Saturday 22, 14.00-14.45
Machine learning and robotics are already used to automate routine processes, augment human creativity and enhance user experience. As these AI techniques develop, what does the future hold for the field of design? With Chris Luebkeman (ARUP), Daghan Cam (AI Build), Phoenix Perry (Goldsmiths University of London) and Hooman Shayani (Autodesk). Chaired by Luba Elliott (Creative AI Researcher).

Katriona Beales in conversation with William Tunstall-Pedoe*
*Hochhauser Auditorium, Sackler Centre for arts education
Saturday 22, 14.00-15.00
Artist Katriona Beales and entrepreneur and founder of Evi William Tunstall-Pedoe in a conversation exploring questions of social justice, rising inequality and accountability in relation to the development of AI.
The Work of Art in the Age of Artificial Intelligence  
*Hochhauser Auditorium, Sackler Centre for arts education*  
*Saturday 22, 16.00-17.00*  
Natalia Fuchs and Helena Nikonole present different views on AI ideas in art & technology, past and present, and an interdisciplinary perspective regarding the future of culture, society, politics and economics.

Data and Training Sets in an Artistic Practice, Anna Ridler  
*Room 220, Sackler Centre for arts education*  
Anna Ridler on using data in her practice and the use of training sets to push notions of creativity within an art context.

The Art of Music in the Digital Age, Beatie Wolfe  
*Prince Consort Gallery, Room 110*  
*Sunday 23, 12.00-13.00*  
Musician and Innovator Beatie Wolfe talks to Elly Parsons of Wallpaper* magazine about her series of world-first album designs which explore what music can look like in the digital age. Followed by a live acoustic performance.

Chance and Control: Art in the Age of Computers  
*Paintings, Room 88a, The Edwin and Susan Davies Gallery and Prints and Drawings, Room 90, The Julie and Robert Breckman Gallery*  
*Saturday 22, 15.00-15.40*  
Join Douglas Dodds, Senior Curator of Digital Art, and find out more about computer-generated art from the collection, exploring aspects of chance and control.

AI and Ethics*  
*The Lydia and Manfred Gorvy Lecture Theatre, Level 4*  
*Sunday 23, 12.00-13.00*  
Join our expert panel discussing algorithmic bias, automated decision making, and the ethical and social implications of AI. *Speakers include Ramon Amaro (Goldsmiths University), Josh Cowls (Alan Turing Institute), Tabitha Goldstaub (CognitionX).*  
*Chaired by Lucy Sollitt.*

Virtual Futures Salon: Radical Visions with Eduardo Kac  
*The Lydia and Manfred Gorvy Lecture Theatre, Level 4*  
*Sunday 23, 15.00-16.00*  
Virtual Futures presents bio-art pioneer Eduardo Kac for a conversation on transgenic art and online interventions.
Free, booking required: https://www.eventbrite.co.uk/e/radical-visions-with-eduardo-kac-virtual-futures-salon-tickets-46865457846

The Future of Money Award
Hochhauser Auditorium, Sackler Centre for arts education
Sunday 23, 15.30-16.10
The Future of Money is a platform created to develop links between the financial industry and creative practitioners from around the world. This year’s awards focus on Artificial Intelligence in the context of payments. Organised by Ahaaa; supported by Consult Hyperion.

Audrey, Amy Cartwright
Fashion, Room 40
Performances at 11.30, 13.30 and 15.30
Moving away from the anthropomorphic image of robot, Audrey allows us to think deeper on the meaning of dance performance and the possibilities around introducing nonhuman bodies into the performance space. Developed during the Goldsmiths’ Department of Computing and V&A Digital Programmes Computational Art Residency.

SHOW & TELL INSTALLATIONS

Nectary, Manuel Jimenez Garcia with Nagami
Grand Entrance Cromwell Road
A modular system able to create an infinite number of morphological variations. Based on three different robotically 3D-printed elements, it can be assembled into a plethora of spaces by following structurally driven combinatorial algorithms.

FRANK - Deus ex Machina, Cecilie Waagner Falkenstrøm*
Medieval & Renaissance, Room 8
The William and Eileen Ruddock Gallery
ARTificial intelligence FRANK is created using the newest advancements within machine intelligence. FRANK will provide personal guidance regarding existential dilemmas. Don’t be afraid to approach FRANK. He will be expecting you!

The Heart of the Matter
Medieval & Renaissance, Room 64b
The Simon Sainsbury Gallery
3D printed and kinetic sculptures from The Heart of the Matter, a project conceived by artist Sofie Layton and bioengineer Giovanni Biglino and developed with health psychologist Jo Wray bringing together art and medicine to reflect on the human heart.
Produced by GOSH Arts with Artsadmin; supported by the Wellcome Trust, the Blavatnik Family Foundation, Above & Beyond, Great Ormond Street Hospital Children’s Charity, NIHR Biomedical Research Centre at University Hospitals Bristol NHS Foundation Trust and the University of Bristol and using public funding by the National Lottery through Arts Council England.

**Supra Systems**
*Sculpture, Room 21a*
*The Dorothy and Michael Hintze Gallery*
A series of projects and performances which explore and materialise the politics of networked technology and the complex systems that underpin them. *Developed by Supra Systems Studio; Design School, London College of Communication, University of the Arts London.*

**Cucune: Sustainable 3d printed Furniture**
*The Raphael Cartoons, Room 48a*
A great opportunity to experience a live demonstration of 3d printed furniture. *Powered by AiBuild*

**The Face of Movements, Aldo Faisal and Stefanos Zafeiriou**
*The Raphael Cartoons, Room 48a*
A suit that is like having your own personal neurologist studying your daily motions could help doctors treat muscular dystrophy.

**Vase Forms, Andy Lomas**
*Sackler Centre for arts education*
Vase-like computationally generated sculptures, created using digital simulation of growth processes to generate surprisingly natural seeming, though completely synthetic, complex organic forms. *Supported by Materialise UK Ltd.*

**Art 3.0, Neil Mendoza**
*Sackler Centre for arts education*
Art 3.0 uses blockchain technology to explore the value of art and introduces a new model for the art market using smart contracts running on the Ethereum blockchain.

**Embarrassed Robots, Soomi Park**
*Sackler Centre for arts education*
Embarrassed Robots questions whether emerging intelligent technologies will need to adopt human expressions and emotions in order to integrate better into our lives. *Supported by the Design Museum and Queen Mary University of London.*

**DATA SHOP, Varvara Guljajeva & Mar Canet**
*Sackler Centre for arts education*
A shop-like installation, which speculates with the idea of having a shop that sells and stores personal data. Pen drives containing the artists’ personal data from Facebook, Google Takeout, Visa, and Mastercard were canned and labelled as real products. *Part of PERRO Project, curated by Javier Galán; supported by the Spanish Ministry of Education, Culture and Sport.*

**Beholder, United Visual Artists & BOM**

*Lunchroom 2, Sackler Centre for arts education*

An immersive experience which seeks to re-evaluate our understanding of beauty, to see it from autistic perspectives. A unique and bespoke encounter using VR technologies, it serves as a platform to experience an alternate set of stimuli and to hopefully, widen our perceptions. *Commissioned by BOM with support from Digital Catapult and Arts Council England.*

**Not-Equal, Network for Social Justice through the Digital Economy***

*Lunchroom 1, Sackler Centre for arts education*

Drop-in sessions, 10.30-13.00 and 14.30-17.00

Activities to explore everyday smart devices and technologies and help map the impact of smart technologies on issues of social justice. Share ideas and practices for building a DIY guide to digital self-protection using our storyboarding kits.

**The Living Room of the Future, BBC R&D**

*Lunchroom 1, Sackler Centre for arts education*

*Under 16s must be accompanied*

Do you ever think about how much technology knows about you and your loved ones? In the future, how much will your living room know about you? Join the BBC R&D and explore a simulated living room of the future! *Delivered through the Arts and Humanities Research Council (AHRC) project Objects of Immersion. A collaboration between FACT, BBC R&D, Lancaster University, University of Nottingham, and University of York. With support from the British Council and the EPSRC Research Project*
PETRAS The Cybersecurity Research Hub for the Internet of Things.

The one who knows, Ben Olsen & Giacomo Piazzi
Lunchroom 1, Sackler Centre for arts education
This terminal-oracle provides a web search based on the ancient algorithm behind the I Ching, answering the question of the user with the answer they were searching for. Project curated by Klimentina Milenova and Interface Culture Department, University Linz; supported by ACF London and Ars Electronica Linz.

WPORTRAITS, Jaime de los Ríos
Lunchroom 1, Sackler Centre for arts education
WPORTRAITS explores the way people represent themselves in the big mosaic of Internet, at the same time it studies how painting tradition’s heritage affects our daily life. Part of PERRO Project, curated by Javier Galán; with support from the Spanish Ministry of Education, Culture and Sport.

The Social Impact of AI, Arianna Mazzeo - ELISAVA Barcelona School of Design and Engineering
Lunchroom 1, Sackler Centre for arts education
A project exploring the importance and role of artists and designers in gaining an understanding of how AI transforms society and its policies by co-designing new distributed models of governance.

Livecoding meets 3D printing: experiments in live computational sculpting, Evan Raskob
Lunchroom 1, Sackler Centre for arts education
3D printing demonstrations 13-45-15.45
LivePrinter combines designing and 3D printing objects. Livecoding is used to control manufacturing precisely and procedurally with real-time flexibility. This system extends digital printing and CNC machining into the realm of performance and has potential in design and science pedagogy.

Britbot, Libby Heaney
Digital Studio, Sackler Centre for arts education
A net-based chatbot exploring British identity. Initially trained on text related to the UK citizenship test, it will gradually learn from the people it speaks to. Supported by Sky Arts Art50.

Object Permanence, Howard Melnyczuk
Digital Studio, Sackler Centre for arts education
This work explores the power of objects,
their documents and their histories by mining the V&A's online archive to interrogate Britain’s colonial legacy. Developed during the Goldsmiths’ Department of Computing and V&A Digital Programmes Computational Art Residency.

**IT IS NOT ENOUGH**, Fermín Serrano
Digital Studio, Sackler Centre for arts education
A sound installation as the result of a meta-analysis of citizen science and gender issues. Part of PERRO Project, curated by Javier Galán; supported by the Spanish Ministry of Education, Culture and Sport.

**Fuzzy_Logic Machine**, Irene Ródenas & Gabriela Gordillo
Digital Studio, Sackler Centre for arts education
A light and sound interface that explores the relations within a system, where digital and human logic are in dialogue. Project curated by Klimentina Milenova and Interface Culture Department, University Linz; supported by ACF London and Ars Electronica Linz.

**2 Computers Playing Pong**, Diego Javier Alberti
Design Studio, Sackler Centre for arts education
Two PCs make use of a computer vision system to play “Pong”, the first commercially successful video game in history. Supported by British Council and +CODE Electronic Art Festival.

**Beyond paper**, Qian Ye and Melanie Tonkowik
Design Studio, Sackler Centre for arts education
A tangible pop-up book for visitors to interact with. Project curated by Klimentina Milenova and Interface Culture Department, University Linz; supported by ACF London and Ars Electronica Linz.

**THE AGE OF FICTION**, Vicente Vázquez & Usue Arrieta
Design Studio, Sackler Centre for arts education
A computer application (Bergman) and an electronic display (Kawara) generating in real time a new chronology referring to the time elapsed fiction until the time of inquiry. Part of PERRO Project, curated by Javier Galán; supported by the Spanish Ministry of Education, Culture and Sport.

**A New Domestic Collaboration**, Laura Dekker
Design Studio, Sackler Centre for arts education
A machine, rhizome-like, has invaded the domestic furniture. It entices you to interact, to stroke it and feed it stimulating things. In response, it begins to express itself.

**Affective Futures: Personalise emotionally smart wearables and robots**, *Affective Futures*
*Art Studio, Sackler Centre for arts education*
*Workshops at 15.30 on Saturday 22 and 14.00 on Sunday 23.*
A demo and workshop for prototyping and personalising emotionally smart wearables and robots. Toolkit and materials provided. *Limited to 12 participants, on a first come, first served basis.*

**Drawing Game, Esther Rolinson & Sean Clark**
*Art Studio, Sackler Centre for arts education*
A live exchange of drawing marks made between artist Esther Rolinson and a drawing machine programmed by artist programmer Sean Clark. In the game, a robot drawing arm and the artist draw onto the same surface influencing each other to build up a body of rhythmic images.

**Another Intelligence Sings, Amanda Baum, Rose Leahy & Robert Walker**
*Art Studio, Sackler Centre for arts education*
Another Intelligence Sings weaves together sounds from nonhuman worlds, inviting visitors to experience our planetary ecosystems through the generative song of an algorithm. * Featuring material from the British Library, Discrepant and more.*

**Machinic Doodles, Jessica In**
*Art Studio, Sackler Centre for arts education*
Interactive robotic drawing installation that explores ideas of visual communication. *Developed during the Goldsmiths’ Department of Computing and V&A Digital Programmes Computational Art Residency.*

**Spirit spaces, Aesun Kim & Stevie J. Sutanto**
*Art Studio, Sackler Centre for arts education*
A performative embodied interface working through body movement. *Project curated by Klimentina Milenova and Interface Culture Department, University Linz; supported by ACF London and Ars Electronica Linz.*
**Closed Loop**, Jake Elwes in collaboration with Ronald Arnoldt  
*Sackler Centre for arts education*  
Two artificial intelligence models converse with each other - one with words the other with images - in a never-ending feedback loop. Two neural networks getting lost in their own nuances, sparking and branching off each other as they converse in a perpetual game of AI Chinese whispers.

**As-So**, Robert Walker  
*Sackler Centre for arts education*  
‘As-So’ renders two perspectives of artificial intelligence. Macro and micro processes are visualised literally but appear as abstract lines. The macro is traced by algorithmic trend detection of asset prices. The micro is the internal process of a neural network training on 60000 handwritten numbers (the ur-data set of image recognition, called MNIST).

**IS3: ejercicio 2**, Mónica Bate  
*Sackler Centre for arts education*  
A visualization and sonification analogical machine from the IS3 series that reads part of an EEG of its author during a stress crisis. *Supported by the British Council, +CODE Electronic Art Festival, Vicerrectoría de Investigación y Desarrollo, Universidad de Chile,*

**Departamento de Artes Visuales Facultad de Artes, Universidad de Chile, Fundación Flores, TSONAMI Arte Sonoro.**

**Defective apparatus: It refuses to behave according to its original rules and insists on avoiding people. part 1.1,**  
**Roy Macdonald**  
*Seminar Room 4, Learning Centre, Level 3*  
A self-learning machine that tries to find the best way to avoid people while constantly changing the delimitation of space and how we interact with it. *Developed during the Goldsmiths’ Department of Computing and V＆A Digital Programmes Computational Art Residency.*

**Open Studios: Rachel Ara**  
*Residency Studios, Sackler Centre for arts education*  
*Sat 22 & Sun 23, 13.00-16.00*  
Find out about Rachel Ara’s research into the data and hidden stories the museum holds and experience the holographic mixed reality experience she has incorporated in her site-specific installation The Transubstantiation of Knowledge, on display in our Medieval and Renaissance Galleries.  
*Generously supported by the Andrew W. Mellon Foundation. Holographic Mixed Reality Experience provided by DoubleMe.*
WORKSHOPS

*How to Hack a Patent*, The Institute of Patent Infringement
*The Salon, Europe Galleries*
Sift through dozens of Amazon patents, to redraw and remix them, creating alternative technological worlds along the way.

*UnBias, Proboscis, Horizon Digital Economy Institute (University of Nottingham), University of Oxford & University of Edinburgh* *
*The Raphael Cartoons, Room 48a*
*Drop-in from 12.00-16.00*
How do you feel about fake news, filter bubbles, unfair or discriminatory search results and other types of online bias? How are decisions made online? What types of personal data do you share with online companies and services? Do you trust them? Explore these through a range of activities, from Being the Algorithm to Creating a Data Garden, and from Public Voting to making a TrustScape of how you feel about these issues. Suitable for adults & children 10 yrs+

V&A Samsung Digital Classroom: Make a bot! with George Buckenham
*The Raphael Cartoons, Room 48a*
*Drop-in 1-hr sessions at 10.45, 12.00, 14.00, 15.15 and 16.15*
Learn how to make bots with *Cheap Bots, Done Quick!*, a free tool for making Twitter accounts that automatically generate their own tweets. No programming experience necessary. Supported by Samsung.

*New Dreamers, Nye Thompson*
*Lunchroom 1, Sackler Centre for arts education*
*Drop-in sessions from 11.00-13.00 and 14.00-16.30*
Explore the emergent machine gaze with artist Nye Thompson. Compare your vision of the world with an AI, or collaborate with one to create a unique cyborg narrative. Suitable for adults & children 10 yrs+

*UnBias Fairness Toolkit Educators Workshop, Giles Lane (Proboscis) & Alex Murdoch* *
*Seminar Room 1, Sackler Centre for arts education*
*Saturday 22, 11.30-13.30*
Algorithms, bias, trust and fairness: how do you engage young people is understanding and discussing these issues? How do you stimulate critical thinking skills to analyse decision-making in online and automated systems? Explore practical ideas for using the UnBias Fairness Toolkit with young people to frame conversations
about how we want our future internet to be fair and free for all.

**UnBias Fairness Toolkit Industry Stakeholders Workshop, Giles Lane (Proboscis) & Alex Murdoch***

*Seminar Room 1, Sackler Centre for arts education
Saturday 22, 14.30-16.30*

The UnBias project is initiating a “public civic dialogue” on trust, fairness and bias in algorithmic systems. This session is for people in the tech industry, activists, researchers, policymakers and regulators to explore how the Fairness Toolkit can inform them about young people’s and others’ perceptions of these issues, and how it can facilitate their responses as contributions to the dialogue.

**Spoke: The Design Science Fiction Boardgame, Evan Raskob & Paris Selinas**

*Lunchroom 1, Sackler Centre for arts education
Drop-in sessions at 10.00-11.30, 11.30-13.00 and 15.35-17.15*

A game for creating interesting and rigorous science fiction stories about current and future topics, like 3D printing. Spoke prompts players to quickly turn rigorous research into compelling narratives about future events. **Limited to 16 participants per session, on a first come, first served basis.**

**The Work of Art in the Age of Artificial Intelligence, Natalia Fuchs and Helena Nikonole**

*Seminar Room 5, Learning Centre
Saturday 22, 10.30-15.30 & Sunday 23, 10.30-16.00*

An artistic research and practical workshop in the field of media art in relation to Artificial Intelligence for participants to test specific tools and evaluate conceptual ideas. **Limited to 16 participants.**

**Artificially Autonomous, Taylor Yasmin**

*Digital Studio, Sackler Centre for arts education
Drop-in, 15-minute sessions from 10.30-13.00 and 13.30-16.30*

Do you feel like the future is unsure? Worried about the rise or potential fall of AI? Join this workshop on how to build your own mini driverless cars. **Suitable for adults and children 7 yrs+**

**Naturewatch**

*The John Madejski Garden
Saturday 22 ONLY, 2-hr sessions at 11.00 and 14.00. Limited space, first come first served. Suitable for 9 yrs+

Love wildlife? Learn how to make the My Naturewatch Camera, as featured on BBC Springwatch, to help you capture wildlife in your garden. **A collaborative design re-search project**
Between the Interaction Research Studio at Goldsmiths University and Design Products at the Royal College of Art, supported by the Engineering and Physical Sciences Research Council.

Naturewatch at the Natural History Museum Wildlife Garden
Sunday 23 ONLY
Explore the NHM Wildlife Garden through the lens of a My Nature-watch camera. Try out the kit, find out more about the project and how to make your own My Naturewatch camera at home!

Design Takeover on Exhibition Road
Sunday 23, 10.00-17.00
Celebrate ten years of London Design Festival at the V&A with a special event on Exhibition Road. Bringing together events by the Brompton Design District, Imperial College, the Natural History Museum, the Science Museum and the V&A, this fun-filled day of design, workshops and talks will offer something for everyone, and a unique way into the many marvels of Albertopolis.

UnBias Fairness Toolkit Workshops,
Giles Lane (Proboscis) & Alex Murdoch*
Young people (12-22 yrs) 12.00-13.30
Open Sessions 15.30-17.00

What is algorithmic bias and how does it affect you? How far do you trust the apps and services you use in your daily life with your data and privacy? How can we judge when an automated decision is fair or not? Take part in group activities exploring these questions using the UnBias Fairness Toolkit to stimulate and inspire your own investigations.

Can Technology Change the Consciousness of a City?, Abhay Adhikari
11.00
Citizens aren’t data points in a passive-aggressive algorithm. Here’s how we build a digitally-enabled city with an abundance of empathy.

On Compression, Alex Graves
14.00
Leading artificial intelligence researcher Alex Graves explores the relationship between data compression, prediction, intelligence and creativity.
DDW AT THE ACF LONDON*

*All events taking place at the Austrian Cultural Forum London, 28 Rutland Gate, London SW7 1PQ (please see map below)
Curated by Klimentina Milenova and Interface Culture Department, University Linz; supported by ACF London and Ars Electronica Linz.

Interactive Guided Tours
Saturday 22, 16.30 & Sunday 23, 15.00 (meet by V&A Exhibition Road entrance sign). Duration: 1hr
An interactive, playful tour between the V&A and ACF London to discover installations and explore human-machine relationships.

Installations
Terminal 6, Aesun Kim
How can a machine understand gestures? A garment that embodies gestural codes and learns our body movements.

Netz. 2, Jens Vetter
A spider’s web construction and interactive sound installation that responds to touch.

Arrhythmia, Gabriela Gordillo
An ongoing score made out of everyday life rhythms. Visitors can in-scribe the frequency of a daily activity in a time frame of 24 hours.

Performances
Saturday 22, 17.30
An evening of free performances including Netz. 2 by Jens Vetter and Arrhythmia by Gabriela Gordillo.

Workshop: ANDI - Low-Tech
3D Printer, Irene Rodenas
Sunday 23, 11.00-13.00
Learn how to build a low-tech 3D printer in this workshop using self-designed modules. Suitable for 12-16 yrs; limited to 12 participants.
Events are free and drop-in, and suitable for all ages unless stated otherwise.

Use #LDF18, #DigitalDesignWeekend to tweet about events

Please note photography and filming will be taking place at these events. Images will be taken for use by the V&A to publicise this event and future digital programmes.