

POSTCITY
Linz

4.—8.
Sept.

AI IN FOCUS

ars.electronica.art/hope

 **ARS ELECTRONICA 2024**
Festival for Art, Technology & Society

 Federal Ministry
Republic of Austria
Arts, Culture,
Civil Service and Sport

What do we HOPE that Artificial Intelligence can do?

Thematic Focus 2024: AI

Suggesting products for online shopping, creating videos or composing music: Artificial Intelligence (AI) has many applications. Beyond every day and creative use, AI is also applied in fields such as medicine, autonomous production processes in industry or self-driving cars. In these fields, errors in functionality can have severe consequences. In order to be able to apply AI safely, we need to understand its ways of functioning. As developments in the field of AI accelerate, the importance of exploring the relationship between this technology and society is more urgent than ever.

For this reason, Ars Electronica Festival 2024 puts a spotlight on AI and its relation to societal development in collaboration with the Austrian Federal Ministry for Arts, Culture, the Civil Service and Sport. We are highlighting key moments and pivotal points of AI development by showcasing exceptional artistic works that engage with this technology, its history, functionalities and applications.

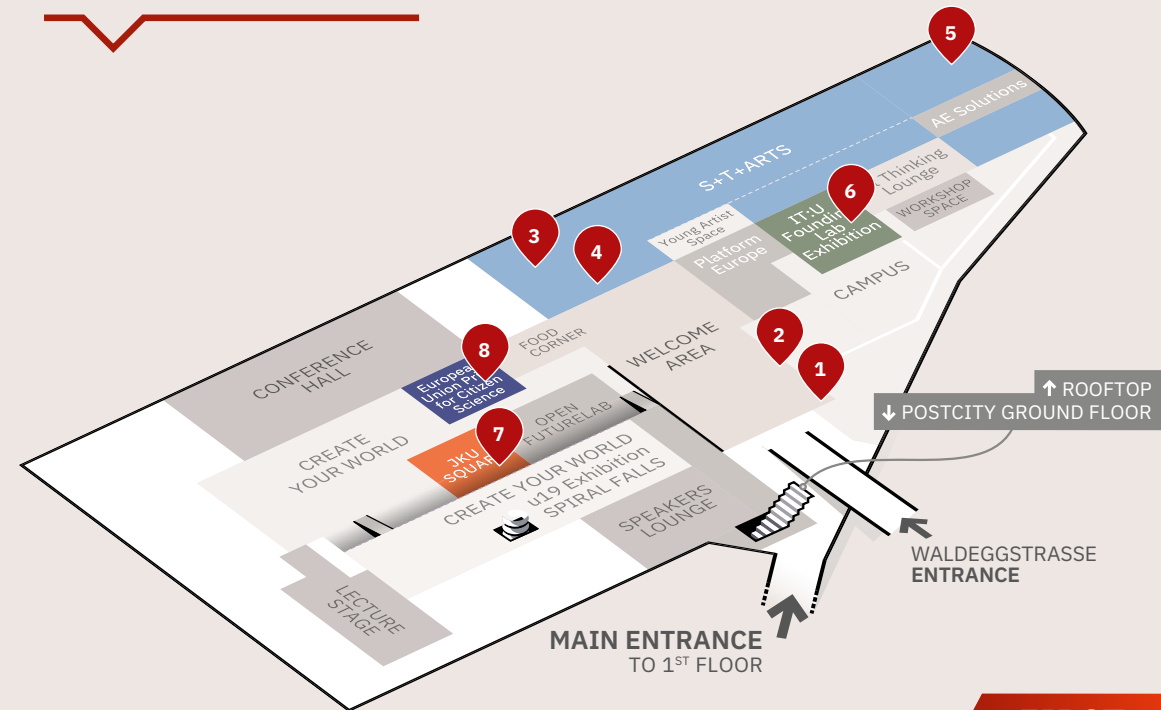
With this self-guided tour booklet, we would like to take you to a number of outstanding works shown in the various exhibitions of POSTCITY: We begin with the Welcome Area and the STARTS Exhibition focusing on intersections between Science, Technology and Arts, followed by our university exhibitions by IT:U and JKU and the *Science through Society* Exhibition on the First Floor. We then move on to the Bunker, where the Theme Exhibition shows us hopeful applications, ending up high in the sky with the State of the ART(ist) Exhibition on the Roof Top.

The inspirational collection of works presented here will hopefully leave you wanting to explore further. We thus warmly invite our visitors particularly interested in AI to investigate the AI themed works at other venues too, like the winners of the AI in ART Award in the Prix Ars Electronica Exhibition at Lentos Kunstmuseum Linz or projects like *Hack the Hat*, *Songs about AI*, *Whispering Gardens* and *The BOX 2.0* in the exhibitions at the JKU MED Campus, to name just a few examples.

Disclaimer: This booklet was entirely written by humans—we hope it will provide inspiration and offer new perspectives on the promises and limitations of AI. So let's dive in!

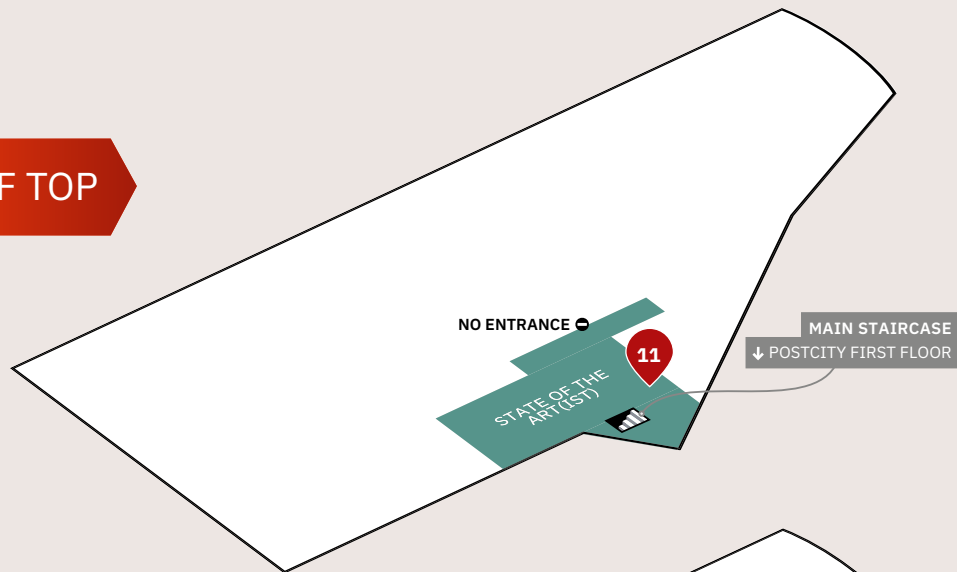
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POSTCITY MAP

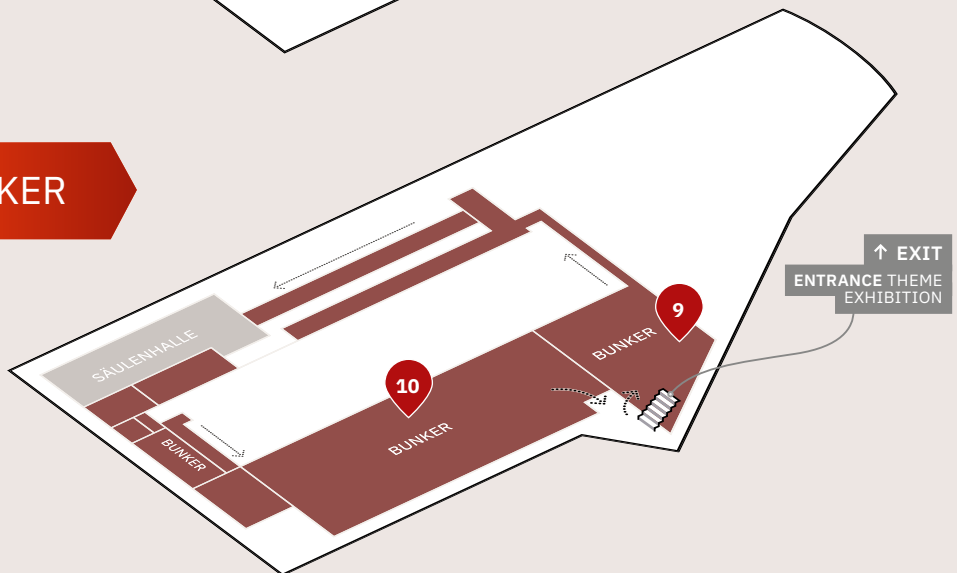


FIRST FLOOR

ROOF TOP



BUNKER



WELCOME AREA

→ POSTCITY, First Floor, free access

Welcome to POSTCITY! To “set the tone”, our Welcome Area greets you with two musical works exploring AI’s creative potential.

1 My Name is Fuzzy ^(CH) **LA MACHINE À TUBES**

LA MACHINE À TUBES by Bastien Bron aka My name is Fuzzy has a creative, playful approach to AI, focusing predominantly on the exploration of AI’s potential for creativity. In this work, the interaction between the AI and the audience creates pop songs: how do algorithms influence our taste in music?

Although it is called *LA MACHINE À TUBES* (*The Hit Machine*), there is no guarantee it will produce a single hit. Like an artist dreaming of creating “the” hit, the machine tries infinite combinations of notes and lyrics, not knowing if it will succeed. It has been fed melodies and themes imagined by the artist, which the AI uses to create new content. The audience is invited to interact with the machine and make choices to generate new songs, played live by the artist’s digital alter-ego. Danceable, playful or unsettling, the work offers an ironic look at the algorithms shaping our tastes and desires.



The machine plays with its own obsolescence, blending contemporary technology with retro-futuristic craftsmanship.

Presented with the kind support of the Swiss Arts Council Pro Helvetia.

2

Maria Arnal ^(ES) *Maria CHOIR*

Maria CHOIR activates our emotions: let's make music together with an AI! This work allows visitors to sing a song together with the AI—the more people join, the bigger the choir of human and artificial voices becomes. It is both an artistic experiment and a social experience: can AI develop its own creativity, or does it “only” imitate humans? Set within a dark, intimate space, the installation features a transparent plinth revealing its inner workings, surrounded

by speakers that envelop participants in a rich tapestry of sound. An AI-animated avatar guides users, morphing in response to their vocal inputs, creating a personalized, dynamic experience. By means of this design, the artwork both enables entertainment and encourages reflection on the technology it is built on.

Presented in the context of the *STARTS Ec(h)o* project. *STARTS Ec(h)o* is funded by the European Union under Grant Agreement No. 101135691.



© JP Bonino

S+T+ARTS EXHIBITION

→ POSTCITY, First Floor, free access

We move on to the **STARTS Exhibition**, showcasing innovative projects at the intersection of **Science, Technology and ARTS**. No surprise that the works in this exhibition engage with AI in manifold ways, from historical to body-centered to application-oriented perspectives on the technology.

3 Kate Crawford ^(AU), Vladan Joler ^(RS) *Calculating Empires*

The STARTS exhibition on the first floor of POSTCITY allows a deep dive into the history of AI's development. AI did not appear as suddenly as media often suggests, but is the result of technological progress over the last 500 years. In *Calculating Empires*, Vladan Joler and Kate Crawford show the entwinement of technology and power from 1500 to the present. This large-scale research visualization and physical installation explores how technical and social structures co-evolved over five centuries. It traces technological patterns of colonialism, militarization, automation, and oppression to show how these forces still subjugate and how they might be unwound.

Presented in the context of the *STARTS Ec(h)o* project. *STARTS Ec(h)o* is funded by the European Union under Grant Agreement No. 101135691.



© Piercarlo Quecchia - DSL Studio

4 Ama BE ^(GH/US), Ameera Kawash ^(PS/US)
Black Body Radiation: Rescripting Data Bodies

Black Body Radiation: Rescripting Data Bodies rethinks relationships between data and embodiment, exploring new ways to value and circulate performance artwork and involving AI in the process. It challenges data colonialism and digital practices based on exploitive relationships between data and the self. Ameera Kawash designed a framework for capturing performer metrics and created AI-generated avatars that respond to Ama BE's performance.

Ama BE wears sensors that track heart rate, body temperature and blood oxygen levels to generate avatars that respond to her exertion and duration. This unique way of intersecting AI technology with bodily presence was awarded with a STARTS Prize Africa Award of Distinction.

Presented in the context of the *STARTS4Africa* project. *STARTS4Africa* has received funding from the European Commission's Directorate-General for Communications Networks, Content and Technology under grant agreement No. LC-01960720.

© Ameera Kawash, Ama BE



5 Daniel Coppen ^(GB), Tomo Kihara ^(JP)
How (not) to get hit by a self-driving car

How (not) to get hit by a self-driving car by Daniel Coppen and Tomo Kihara allows the functioning of AI to be experienced first hand. In this playful exploration, visitors can learn how optical recognition works in self-driving cars. Players, each marked with a pedestrian detection score determined by the algorithm, must cleverly disguise themselves to reduce their score and avoid detection. Successful evasion exposes both the system's blind spots

and inability to recognize diverse individuals, like children or wheelchair users, highlighting the risks posed by these flawed algorithms in real-world scenarios. Each victory generates edge case data showcasing the AI's biases and flaws. Move creatively across the pedestrian crossing in order not to be recognized as a human!

Presented in the context of the *STARTS Ec(h)o* project. *STARTS Ec(h)o* is funded by the European Union under Grant Agreement No. 101135691.



© Tomo Kihara, Daniel Coppen

IT:U EXHIBITION

→ POSTCITY, First Floor, free access

The newly founded IT:U Interdisciplinary Transformation University Austria presents works from its first cohort of students. These young minds, who are studying how to address the digital transformation through interdisciplinarity, also strongly focus their thinking on AI technology.

6 Nathan Cornish^(GB) *GPT 1400: The AI Apothecary*

If medieval people had had Artificial Intelligence, would it have made any difference? In fact, AI systems can produce very similar nonsense from large databases as pre-scientific Western European physicians! Neither of them has much conception of critical thinking, but rather pulls from ancient texts to throw out cure suggestions from an abstract corpus of ideas. Receive a unique medical proverb and remedy from an AI physician that suits medieval medicine much better than modern healthcare. Nathan Cornish's work with the playful title *GPT 1400: The AI Apothecary* is a speculative historical experience pulling Artificial Intelligence from the realm of possible futures back to that of possible histories. It points at key issues relating to the quality of training data sets as well as the everyday use of AI, enabling us to reflect critically on these questions.



© Martin Heilmair

This project was initiated as part of the FOUNDING LAB program at IT:U and Ars Electronica in Linz, Austria (2023–2024). The FOUNDING LAB is realized as a Public Partnership between Ars Electronica GmbH and Co KG and the Institute of Digital Sciences (IT:U), Austria and financed through funds from the Austrian Federal Ministry of Education, Science and Research.

JKU SQUARE

→ POSTCITY, First Floor, free access

The Johannes Kepler University Linz is not only presenting a brand-new venue for Ars Electronica Festival this year—the JKU MED Campus, where a big Art+Science Exhibition including many works discussing AI is shown—but also introduces work of JKU students who explore questions of AI at POSTCITY.

7 Bernhard Nessler^(AT), Gregor Aichinger^(AT), Katharina Leitner^(AT) *The Turing Game*

In the 1950s, Alan Turing wanted to test if machines could think like humans: the Turing Test was invented. Based on his work, students of the Johannes Kepler University Linz developed *The Turing Game*. Are ChatGPT and other current large language models already able to pass the Turing Test? In *The Turing Game*, two humans and a machine meet in a text chat without knowing the identities of their counterparts. The humans must work together to recognize the other human concerned and distinguish them from the AI that masquerades as a human. If the machine succeeds in convincing at least one of the two humans that it itself is human and the other human is a machine, the machine wins the Turing Test and the humans lose. The artistic installation provides current research findings on the Turing Test and related technical and philosophical considerations con-



© Katharina Leitner

cerning intelligence and consciousness, as well as ethics and morality.

This project is supported by the State of Upper Austria. The project and the interdisciplinary research of the SCCH, the LIT Law Lab and the JKU ML Institute was founded by the Linz Institute of Technology (LIT) of the JKU, by the business and research strategy #upperVISION2030 of the state of Upper Austria in the project *AI Engineering and Certification Center*, and as a result of the collaboration with TÜV AUSTRIA and the joint venture TRUSTIFAI in the CERT project.

SCIENCE THROUGH SOCIETY EXHIBITION

→ POSTCITY, First Floor, free access

Citizen Science is a methodology that gives citizens agency in the research process. Research projects from this field are also increasingly engaging with AI as a technology, exploring its effects on the lives of citizens.

8 Thor Magnusson (IS) *Intelligent Instruments for Citizen Science*

As Artificial Intelligence is becoming increasingly human-like and is now proficient in the key human activity of musical creativity, it is no surprise that another one of our AI-themed projects focuses on the methodology of AI-generated music. Thor Magnusson and his *Intelligent Instruments* Lab question how creative AI changes our notions of art, culture and society. As new machine learning technologies begin to mirror ourselves, we need to look into that mirror and ask how this is changing us. This project takes a pioneering step in AI research by answering how new creative AI transforms our relationships with technology and other people. While we usually only perceive AI as an “abstract composer” in relation to music, the *Intelligent Instruments* Lab creates *physical* instruments that exhibit agency and the ability to adapt. This unique approach not only led to an Honorary Mention of this project in the European



© Esther Yr-Thomaldsdottir

Union Prize for Citizen Science, but also to a Prix Ars Electronica Award of Distinction in the category AI in ART.

Presented in the context of the IMPETUS project. IMPETUS is funded by the European Union under Grant Agreement No. 101058677.

THEME EXHIBITION - HOPE: the touch of many

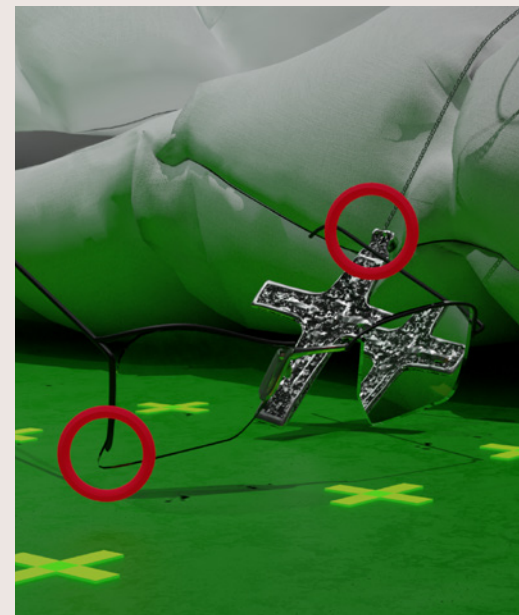
→ POSTCITY, Bunker

This year's theme exhibition *HOPE: the touch of many* explores AI from different perspectives. One particular focus is on aesthetics in AI generated imagery.

9 Martyna Marciniak (PL) *Anatomy of Non-Fact*

One of the Theme Exhibition's approaches to AI is presented by Martyna Marciniak, current artist-in-residence at Ars Electronica, with her work *Anatomy of Non-Fact*. The work seeks a definition of the aesthetics of fact and explores speculative futures of visual fact in the age of omnipresent AI-generated visual content. The artist explores the deformation of information in AI-generated images and makes use of popular examples such as the image of Pope Francis in a fashionable Balenciaga coat, omnipresent in social media in 2023. She integrates the coat, this artefact of AI-generated pop culture, in the exhibition. By blurring lines between fact and fiction in the internet's visual language, this work allows us to explore AI's effects on society.

This project has been developed and is presented in the context of the *European Digital Deal* project. *European Digital Deal* is co-funded by the Creative Europe Programme of the European Union and by the Austrian Federal Ministry for Arts, Culture, the Civil Service and Sport.



© Martyna Marciniak

10 Timothy Thomasson (CA) *I'm Feeling Lucky*

This year's Prix Ars Electronica winner in the category New Animation Art also engages with AI: *I'm Feeling Lucky* is a computer animation that inhabits a virtual landscape with images of people taken from Google Street View, each processed through a deep neural network to become three-dimensional models frozen in their original photographed poses. The work

draws on 19th century panorama paintings, letting the audience feel immersed in the panorama of an endless 3D virtual landscape that is both historically and geographically ambiguous. This connection across time and spaces allows the artist Timothy Thomasson to let historic media technology enter into communication with modern means of data collection.



© Timothy Thomasson

State of the ART(ist)

→ POSTCITY, ROOF TOP

The State of the ART(ist) exhibition showcases the work of artists at risk. AI here can be a means to tackle, manage or even overcome states of risk and emergency.

11 Paribartana Mohanty (IN) *Immersive Sky Experience*

Immersive Sky Experience explores the common sky as an observatory for forecasting using AI, machine learning technology, data mining and archiving for climate storytelling and weather predictions. It forecasts on a minute-to-minute basis weather changes to specific micro-geographies, providing reports from windows, streets, villages, municipalities and small towns. The project brings together visual data/photos of the sky from six coastal districts of the Indian coastal state of Odisha, voluntarily uploaded by the public. It is designed to facilitate climate-vulnerable marginal communities to share

their environmental stories and experiences. This provides a unique perspective on and experience of the Odia language and culture, Odia people and their characteristics while collecting and analyzing data for climate research, creating a unique environment disaster image archive. It therefore utilizes AI for the preservation of both natural and cultural heritage, an inspiring use of technology for a good cause.

The presentation of the work is funded by State of the ART(ist), a collaboration between the Austrian Ministry of Foreign Affairs and Ars Electronica.



© Paribartana Mohanty

#arselectronica24

OPENING TIMES

POSTCITY

WED 4.9. – SAT 7.9. 10:00–19:00
SUN 8.9. 10:00–18:00

The **INFO** and **ARTIST DESK**, the **box offices**, the **PRESS DESK** and the **WE GUIDE YOU Meeting Point** are located in POSTCITY. Reserved or prepaid tickets can be picked up here. The INFO DESK opens at 9:30. Admission to the exhibitions ends 30 minutes before closing.

Ars Electronica Center

WED 4.9. – SUN 8.9. 10:00–18:00

Lentos Kunstmuseum Linz

WED 4.9. – SUN 8.9. 10:00–18:00
THU 5.9. 10:00–20:00

University of Arts Linz

WED 4.9. – SAT 7.9. 11:00–20:00
SUN 8.9. 11:00–18:00

Several locations. Free admission.

JKU MED Campus (MED Campus I)

WED 4.9. – SAT 7.9. 10:00–19:00
SUN 8.9. 10:00–18:00

Please travel by public transportation, if possible. Thank you.

CREDITS: **Editing Team:** Christl Baur, Vanessa Hanneschläger, Johanna Lenhart, Veronika Liebl, Nilesh Pinto, Philip Wolfsohn
Copyediting: Christl Baur, Vanessa Hanneschläger, Andrew Horsfield, Veronika Liebl

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