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| ***Issue #10 The year 2020***  **🤖 The Creative AI newsletter 🎨**by Luba Elliott |

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| *Hi lonce! You've been to one of my Creative AI meetup events (or my website elluba.com) and have opted in to receive occasional emails with updates on creative applications of artificial intelligence in art, music, design and beyond. Here's issue #10*😀  |

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| **🎨 Art 🎨**The [AI Art gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=684bee4735&e=53e708d2dc" \t "_blank) that I curate every year for the [NeurIPS Creativity Workshop](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3fc2712a28&e=53e708d2dc" \t "_blank) includes 100+ new art, music, text and design projects, check it out! This year, I was also part of the jury for the AI Artathon in Saudi Arabia - you can see the [winners](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=338cb7b1ad&e=53e708d2dc" \t "_blank), [hackathon](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8c76b16364&e=53e708d2dc" \t "_blank) and [bootcamp](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9bc911c5ff&e=53e708d2dc" \t "_blank) projects. Meanwhile, the Lumen Prize awarded its AI Prize to Christian Mio Loclair's AI-designed marble sculpture [Helin](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=da64556161&e=53e708d2dc" \t "_blank) and Casey Reas & Jan St. Werner won in the Moving Image category with [Compressed Cinema](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=38169b4f89&e=53e708d2dc" \t "_blank), where the videos were generated by AI.**New art projects** include Golan Levin with Lingdong Huang's [Ambigrammatic Figures](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4e0d100e07&e=53e708d2dc" \t "_blank) legible both upside-down and right-side up; Joel Simon and Tal Shiri's [Derivative Works](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d7349c6df8&e=53e708d2dc" \t "_blank) of AI-made image collages of faces; Philipp Schmitt's [Declassifier](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=55172da0c0&e=53e708d2dc" \t "_blank), overlaying dataset images over objects detected in an image; Everest Pipkin's [Lacework](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6b771971c0&e=53e708d2dc" \t "_blank), using AI to reinscribe a video dataset of daily actions; Terence Broad's [Teratome](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1bded18930&e=53e708d2dc" \t "_blank) made with network bending techniques; Daniel Ambrosi's [Abstract Dreams](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cab5bb1ea6&e=53e708d2dc" \t "_blank); Vishal Kumaraswamy's [Swaayattate (Autonomy)](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2e4a63e402&e=53e708d2dc" \t "_blank), a set of films on human-machine relationships and gender, caste and labour; driessens & verstappen's [Pareidolia](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ac08102223&e=53e708d2dc" \t "_blank), where facial recognition finds faces in grains of sand; Mario Klingemann's [Appropriate Response](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=284a5ec8e3&e=53e708d2dc" \t "_blank), a series of changing letters to explore meaning, expectation and relationship with AI; Guillaume Slizewicz's [I can remember](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c69a54cc56&e=53e708d2dc" \t "_blank), about the creative potential of image analysis; Carrie Sijia Wang's [An Interview with ALEX](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4ec26e5a33&e=53e708d2dc" \t "_blank), a simulation of an interview with an AI HR; Holly Grimm's [Aikphrasis Project](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=73c33f2d85&e=53e708d2dc" \t "_blank), where artists respond to AI-generated text; Alexander Reben's [Am I AI (The New Aesthetic)](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=970ef0ecc7&e=53e708d2dc" \t "_blank) artworks dreamed up by AI and produced in real-life by the artist or others; Nina Rajcic's [Mirror Ritual](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=dc0d79d195&e=53e708d2dc" \t "_blank), a project on human-machine co-construction of emotion; [Vibe Check](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c65587eff2&e=53e708d2dc" \t "_blank) by Lauren Lee McCarthy & Kyle McDonald, which enacts another control system through the passive observation of our neighbours; Entangled Others & Sofia Crespo's [Artificial Remnants](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f6bd270317&e=53e708d2dc" \t "_blank) of generated insects.**Writing** 2020 began with features in Art in America, on tools by [Jason Bailey](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cafef8c5b6&e=53e708d2dc" \t "_blank) and on bots vs AI by [Matthew Plummer-Fernandez](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=99d94cf8dc&e=53e708d2dc" \t "_blank) as well as an overview of [AI art books](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=525d76b667&e=53e708d2dc" \t "_blank).  Flash Art published an article on [Anna Ridler and Roman Lipski](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=74a8c362ad&e=53e708d2dc" \t "_blank)'s work, which I co-wrote with Alex Estorick, who has now started a [new column](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f14d87e86c&e=53e708d2dc" \t "_blank) on AI and contemporary art; Beth Joachim talks to artists for her [AI Art Corner](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=92cd411034&e=53e708d2dc" \t "_blank). [New York Times](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ab0a58788f&e=53e708d2dc" \t "_blank) surveyed AI and dance. Interviews with [Entangled Others](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f461c6a343&e=53e708d2dc" \t "_blank) on ecology and generative arts, [Robbie Barrat](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a7f72c1d6d&e=53e708d2dc" \t "_blank) on his art and fashion design work, [Sougwen Chung](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=14bade4f6b&e=53e708d2dc" \t "_blank) on collaborating with a robot arm, [Christian Mio Loclair](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=167a735a76&e=53e708d2dc" \t "_blank) on the overlap between human movement and AI, [Mario Klingemann](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=716f9e9d07&e=53e708d2dc" \t "_blank) on his recent works and [Jenna Sutela](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bd08dc09b7&e=53e708d2dc" \t "_blank) on connecting humans, cellular form and the spiritual; [Stephanie Lepp](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b4cdc26b21&e=53e708d2dc" \t "_blank) on her deepfake art of public figures.**Research** [Devi Parikh](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ca1e3b07da&e=53e708d2dc" \t "_blank) predicted a creator's preferences from interactive generative art, [Simon Colton](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=456f6cd1b5&e=53e708d2dc" \t "_blank) covered adapting and enhancing evolutionary art for casual creation; [Ramya Srinivasan](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7e5689c5f5&e=53e708d2dc" \t "_blank) reviewed biases in generative art from the lens of art history; [Jon McCormack](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f6bcad16f6&e=53e708d2dc" \t "_blank) looked at understanding aesthetic evaluation with deep learning; [Byunghwee Lee](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=91c6ea9d7a&e=53e708d2dc" \t "_blank) dissected landscape art history with information theory; [Ziv Epstein](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b73eb54751&e=53e708d2dc" \t "_blank) considered credit in AI art; [Jason Bailey](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=24c13adda4&e=53e708d2dc" \t "_blank) thought about predicting the price of art at auction; [Xi Wang](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c79a49dbb4&e=53e708d2dc" \t "_blank) quantified ambiguities in artistic images; [Amy Zhao](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1e2241aa85&e=53e708d2dc" \t "_blank) synthesized time lapse videos of paintings; [Terence Broad](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1c1bdfd444&e=53e708d2dc" \t "_blank) optimised generating images for fakeness; [Mark Hamilton](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7f555cb26f&e=53e708d2dc" \t "_blank)'s MosAIc found hidden links between works of art; [Aaron Hertzmann](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0372bd0442&e=53e708d2dc" \t "_blank) thought about why line drawings work; [Lou Safra](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0bb28b92b2&e=53e708d2dc" \t "_blank) attempted to track changes in trustworthiness by analysing facial cues in paintings.**Museums and more**. [The State Tretyakov Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=12c164c499&e=53e708d2dc" \t "_blank) in Russia enlivened three fairytale paintings with AI, while the search engine [Yandex](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c6710dfd6d&e=53e708d2dc" \t "_blank) made a gallery of GAN art and [Matt Round](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2a19902db4&e=53e708d2dc" \t "_blank) for AI street art. With the start of the lockdowns, [Occupy White Walls](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=77a47ec282&e=53e708d2dc" \t "_blank) helped users fill a virtual art gallery with the help of AI suggestions. [Purdue University](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e673b9660f&e=53e708d2dc" \t "_blank) students made a play for human and AI spectators. [Bucharest Biennial](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4db4a55f31&e=53e708d2dc" \t "_blank) will now be curated by an AI. [The National Archives](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c48d9ce99d&e=53e708d2dc" \t "_blank) began work on a computer vision search platform for identifying and matching images across digitised collections. [The Cleveland Museum of Art](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b1e955a8f1&e=53e708d2dc" \t "_blank) invites users to upload images and get matched with work from their collection. [Fabian Offert](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=31ef5b89f2&e=53e708d2dc" \t "_blank) developed a dataset-agnostic, deep visual search engine for digital art history based on neural network embeddings. Benjamin Lee's [Newspaper Navigator](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=60dd216238&e=53e708d2dc" \t "_blank) enables you to explore historic newspaper photographs. [Aleksey Tikhonov](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c74a97b3a4&e=53e708d2dc" \t "_blank) averaged art from classical paintings and [Merzmensch](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a7d998c41a&e=53e708d2dc" \t "_blank) reviewed his experiments from 2020.  |

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| **📖Text 📖****Projects with GPT-2** include Hendrik Strobelt's website that helps you [say No](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8963fd04a1&e=53e708d2dc" \t "_blank); Issue 5 of the music review publication [Ear Wave Event](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0cb944cb59&e=53e708d2dc" \t "_blank); Janelle Shane's [jell-o centric recipes](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6ad20df5c7&e=53e708d2dc" \t "_blank); Elliot Turner's AI-Dungeon style adventure game based on [installing OpenCV](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7202b5ccea&e=53e708d2dc" \t "_blank); [ThisWordDoesNotExist.com](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=eb330d7fef&e=53e708d2dc" \t "_blank) with AI-generated dictionary entries; Lucid Beaming's [art review generator](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ea981e917f&e=53e708d2dc" \t "_blank); [Paola Torres Núñez del Prado](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c8a3cb35bf&e=53e708d2dc" \t "_blank)'s AI poetry record.**GPT-3** In May, OpenAI release [GPT-3](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=844ec9a9c3&e=53e708d2dc" \t "_blank), giving access to its private beta to some researchers and practitioners. Experiments include [React app](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ed0b288b51&e=53e708d2dc" \t "_blank), [website designer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5db9c05f72&e=53e708d2dc" \t "_blank), [layout generator](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=56467a411a&e=53e708d2dc" \t "_blank), [search engine](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=37cf739e0c&e=53e708d2dc" \t "_blank), [SQL query generator](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2422353f2a&e=53e708d2dc" \t "_blank) and writing such as [Twitter personalities](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=211c178c8c&e=53e708d2dc" \t "_blank), [legal language](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b36e944b43&e=53e708d2dc" \t "_blank), [new Hamilton song](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=aac83b22c5&e=53e708d2dc" \t "_blank). [Matti Allin](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b81afa5d48&e=53e708d2dc" \t "_blank) analysed Matio Klingemann's GPT-3 [Jerome K. Jerome writing](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b4b2d4a967&e=53e708d2dc" \t "_blank). [The Guardian](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=43beea76d3&e=53e708d2dc" \t "_blank) even wrote an article using the technology and you can see the variations [here](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d18393490b&e=53e708d2dc" \t "_blank). [Gary Marcus](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b5e6384eb5&e=53e708d2dc" \t "_blank) weighed in on GPT-3 and so did [nine philosophers](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b0df7267ba&e=53e708d2dc" \t "_blank). Or, if you prefer, [Philosopher AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e049ed18c5&e=53e708d2dc" \t "_blank) can answer your questions. Gwern has generated plenty of [creative fiction](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3c7ca11929&e=53e708d2dc" \t "_blank). The GPT-3-powered bot went undetected for a week on [AskReddit](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7dfe122e0e&e=53e708d2dc" \t "_blank). [AI Dungeon](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e864ed9f67&e=53e708d2dc" \t "_blank) now runs on GPT-3 and writers are taking note of its [interactive storytelling](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=89cb21c84f&e=53e708d2dc" \t "_blank).Allison Parrish wrote [Reconstructions](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d691bf7dae&e=53e708d2dc" \t "_blank), an infinite computer-generated poem whose output conforms to the literary figure of chiasmus. Funk Turkey wrote a new song for [AC/DC](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=775eb70233&e=53e708d2dc" \t "_blank) using Markov chains. Andreas Refsgaard generated [fairy tales from mundane images](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f26dee0dc6&e=53e708d2dc" \t "_blank). Keaton Patti got a bot to write [QAnon theories](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=985ef423fc&e=53e708d2dc" \t "_blank). Read the 78 [NaNoGenMo](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=98ea9ba56e&e=53e708d2dc" \t "_blank) submissions.**Books.** Aaron A Reed wrote a horror novel [Subcutanean](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5c83db9206&e=53e708d2dc" \t "_blank), where no two copies are the same; Douglas Summer wrote a [book with GPT-3](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8c0dde0c58&e=53e708d2dc" \t "_blank); Alexey Tikhonov wrote a diary of a [Paranoid Transformer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fa715a8c9f&e=53e708d2dc" \t "_blank); K Allado-McDowell came up with [Pharmako-AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2b2a55dd3f&e=53e708d2dc" \t "_blank) together with GPT-3. Tom Lebrun and René Audet published a white paper on [AI and the book industry](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bdd77fadb8&e=53e708d2dc" \t "_blank).Vogue interviewed [Billie Eilish](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=069afd75f7&e=53e708d2dc" \t "_blank) using an AI bot. Shenzhen court ruled that an AI-written article has [copyright protection](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ffbfbe3e6b&e=53e708d2dc" \t "_blank). Pold and Erslev explore [third-wave electronic literature](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=325243221c&e=53e708d2dc" \t "_blank). The New Yorker considered the overlap between [machines and poetry](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f2f92b0d28&e=53e708d2dc" \t "_blank). Ken Liu on [writing with AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5e48aa951e&e=53e708d2dc" \t "_blank) and Allison Parrish on [writing under the control of machine learning](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=116e1d9551&e=53e708d2dc" \t "_blank).Google's [Verse by Verse](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=733cddf70a&e=53e708d2dc" \t "_blank) allows you to compose poems inspired by classic American poets, while [Fabricious](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a887965493&e=53e708d2dc" \t "_blank) decodes ancient Egyptian hieroglyphs. Max Kreminski's [Blabrecs](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6774115175&e=53e708d2dc" \t "_blank) is like Scrabble, but only accepts words that sound like English to the AI. Nikola I. Nikolov developed [Rapformer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9858491578&e=53e708d2dc" \t "_blank) for rap lyrics generation and Mark Riedl has [Weird A.I. Yankovic](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a11bffd5a1&e=53e708d2dc" \t "_blank) for lyrics. Daphne Ippolito discovered that detecting generated text automatically is easiest when [humans are fooled](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4df61cf177&e=53e708d2dc" \t "_blank). Max Woolf explains how to make an AI bot to [parody any Twitter user](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6c2c7c039d&e=53e708d2dc" \t "_blank) and Mark Riedl has an introduction to [AI story generation](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=90655e1bd7&e=53e708d2dc" \t "_blank).   |

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| **🎵 Music🎵****New music projects**. Together with Sister City hotel and Microsoft, [Bjork](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3f0278b401&e=53e708d2dc" \t "_blank) released the AI-powered composition *Kórsafn* based on her choral arrangements and the sky. [Jennifer Walsche](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f243d44b6a&e=53e708d2dc" \t "_blank)'s *A Late Anthology of Early Music Vol. 1: Ancient to Renaissance* is a speculative history of early Western music, made using machine learning. [Robert Laidlow](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1ef68aa436&e=53e708d2dc" \t "_blank) made Alter using several generative models. [Moisés Horta Valenzuela](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5fec1ea7fc&e=53e708d2dc" \t "_blank)'s *Transfiguración* applied the musician's own style to Antonio Zepeda’s pre-hispanic sounds. [Dadabots](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=138fe32f67&e=53e708d2dc" \t "_blank) made an infinite bass solo in the style of YouTuber Adam Neely. [Shimon the Robot](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f24445f661&e=53e708d2dc" \t "_blank) released an album on Spotify, music videos and a demonstration of his [new rapping talent](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=49c2d9d9db&e=53e708d2dc" \t "_blank). Everest Pipkin made [Shell Song](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cb7531a5d8&e=53e708d2dc" \t "_blank), an interactive audio-narrative game exploring voice deep-fake and their datasets.Kjetil Golid's [Sonant](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=35dfe64be7&e=53e708d2dc" \t "_blank) creates generative music based on random walks, [Beat Sage](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f0f5697d77&e=53e708d2dc" \t "_blank) custom beat maps for songs, [Trap Factory](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bd31f4df9f&e=53e708d2dc" \t "_blank) beats and [thisd7xcartdoesnotexist](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7a55513f87&e=53e708d2dc" \t "_blank) preset cartridges for Yamaha DX7. [AiMi](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ed8ec828cd&e=53e708d2dc" \t "_blank) plays electronic music that adapts to you and your energy. [LifeScore](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=db5b118089&e=53e708d2dc" \t "_blank) created a dynamic soundtrack to 'Artificial' based on the audience's reactions in the chat channel. [CantoCocktail](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=db36070bfe&e=53e708d2dc" \t "_blank) is an interactive karaoke generator, composing new medleys based on excerpts of 120 Cantopop songs. Google's [Blob Opera](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a2d016a274&e=53e708d2dc" \t "_blank) allows you to generate operatic sounds using four blob figures. [Infinite Bad Guy](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=97567609e6&e=53e708d2dc" \t "_blank) brings together fan YouTube covers to make a never-ending music video. The studio [IYOIYO](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=744128e106&e=53e708d2dc" \t "_blank) share how they did it. [Qosmo](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f821d6f036&e=53e708d2dc" \t "_blank) developed an automatic music generation system for Shiseido.Australia's *Beautiful the World* song won the [AI Eurovision song contest](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2bef1e41a0&e=53e708d2dc" \t "_blank) and Ed Newton-Rex discussed the [ethical considerations](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1fc17069dc&e=53e708d2dc" \t "_blank). Bob Sturm wrote up the summary and results of his [AI Music Generation Challenge](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e4937f8426&e=53e708d2dc" \t "_blank). Deepfakes of [Jay Z performing Hamlet](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=60fd622033&e=53e708d2dc" \t "_blank) and [Frank Sinatra singing Britney Spears](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d4def1280d&e=53e708d2dc" \t "_blank) reignite [copyright debates](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c27f371321&e=53e708d2dc" \t "_blank) as some of the videos are removed from YouTube. [Damien Riehl and Noah Rubin](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4fa4e1b69c&e=53e708d2dc" \t "_blank) generated all possible melodies and released them into the [public domain](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fc51cf8171&e=53e708d2dc" \t "_blank) in attempt to stop copyright lawsuits. Meanwhile, [The Pudding](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6089fb1ed4&e=53e708d2dc" \t "_blank) judges your taste in music.**Research**. Facebook released [Demucs](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7bf8a510ba&e=53e708d2dc" \t "_blank) and Northwestern University [Cerberus](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9194cd5a6b&e=53e708d2dc" \t "_blank) for music source separation. Earlier in the year, OpenAI released [Jukebox](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fd0e35fa5e&e=53e708d2dc" \t "_blank), which generates music as raw audio in a variety of genres and artist styles. Here it is continuing the [Windows 95 startup sound](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9387bfdac0&e=53e708d2dc" \t "_blank) and [Take On Me](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=894a2552d1&e=53e708d2dc" \t "_blank). Google Magenta has been developing user-friendly music experimentation tools like [ToneTransfer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=01f6684eea&e=53e708d2dc" \t "_blank) and [Lo Fi Player](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c48248ebc8&e=53e708d2dc" \t "_blank). Nao Tokui developed [M4L.RhythmVAE](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2d31a6b5a0&e=53e708d2dc" \t "_blank), which allows musicians to train and use the rhythm generation model within music production software. [Ryan Louie](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0f145265e9&e=53e708d2dc" \t "_blank) created a set of novice-friendly AI-steering tools for AI music creation. Yu-Siang Huang developed [Pop Music Transformer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6ec8e84807&e=53e708d2dc" \t "_blank), a model that generates expressive pop piano music. Yi Ren's [DeepSinger](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=491a3b7563&e=53e708d2dc" \t "_blank) generates singing voices in Chinese and English by training on data from music websites. Algoriddim released[Neural Mix](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e11a10dbe8&e=53e708d2dc" \t "_blank), which isolates beats, instruments and vocals in real-time. [Neural Beatbox](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2476627ea0&e=53e708d2dc" \t "_blank) generates beats and rhythms, based on voices and claps recorded by a webcam.[Sander Dieleman](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fd1adac714&e=53e708d2dc" \t "_blank) wrote about music generation in the waveform domain. [Jean-Pierre Briot](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a9f6910703&e=53e708d2dc" \t "_blank) looks at history, concepts and trends in music generation, [Jeremy Freeman](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ea679ff7d9&e=53e708d2dc" \t "_blank) surveyed AI music from 1950s onwards and [François Pachet](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d1e8ca006c&e=53e708d2dc" \t "_blank) looked at the last 10 years of AI-assisted music composition.   |

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| **👗 Design 👗****New design experiments** include [blended pictures of celebrities](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=45d6db69af&e=53e708d2dc" \t "_blank), [real people from drawings](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7e8324ca4c&e=53e708d2dc" \t "_blank), [beetle-faces](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cf3d6a2950&e=53e708d2dc" \t "_blank), [Great British Bakeoff](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=dd76fabb6a&e=53e708d2dc" \t "_blank), [feet](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8c93abbd00&e=53e708d2dc" \t "_blank), [fursonas](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=62269a4aa4&e=53e708d2dc" \t "_blank), [jellyfish](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cdadc33274&e=53e708d2dc" \t "_blank), [Pokemon](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=57cd8b946e&e=53e708d2dc" \t "_blank) and [monsters](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=af80ffce72&e=53e708d2dc" \t "_blank). Vincent Woo made a website with [people that do exist](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2c900f3de2&e=53e708d2dc" \t "_blank), while Daniel Voshart imagined [Roman Emperors](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a2cbcb5f99&e=53e708d2dc" \t "_blank). There are [machine learning fonts](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=877c43862f&e=53e708d2dc" \t "_blank) that you can download. Otherwise, [Hypha](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9d3b84980e&e=53e708d2dc" \t "_blank) grows letters and [GlyphNet](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a6c0a0dfda&e=53e708d2dc" \t "_blank) generates a visual language.. There are music videos for [Massive Attack](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f472013ab2&e=53e708d2dc" \t "_blank) and [Freeda Beast](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ca655e8c9f&e=53e708d2dc" \t "_blank) by Mario Klingemann, [DJ Deep](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=648b627cb2&e=53e708d2dc" \t "_blank) by Sofia Crespo, [0171](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=66a6f359b4&e=53e708d2dc" \t "_blank) by Terence Broad and [Qrion](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bfc99494c8&e=53e708d2dc" \t "_blank) and [Hiatus](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a262c4330f&e=53e708d2dc" \t "_blank) by Nathan Shipley. Google Experiments showcase details in [Japanese scrolls](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bde37fdfd1&e=53e708d2dc" \t "_blank) and you can get AI-designed manga in the style of [Osamu Tezuka](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8389a261fe&e=53e708d2dc" \t "_blank). [Asahi](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d2f49dd5f1&e=53e708d2dc" \t "_blank) used an AI-powered design for product packaging with a focus on ‘objectivity’ and ‘originality’. [Cunicode](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=809c72697a&e=53e708d2dc" \t "_blank) created unexpected materials with textures and normal data. Javier Ideami visualised [loss landscapes](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=19b11f04be&e=53e708d2dc" \t "_blank). [CookGAN](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7aa2afad7d&e=53e708d2dc" \t "_blank) generates meal images from an ingredients list. [Acne Studios](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fa3ee22083&e=53e708d2dc" \t "_blank) collaborated with Robbie Barrat on their Fall/Winter 2020 collection. A [ceramicist](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=54929b8437&e=53e708d2dc" \t "_blank) shared her experiments with AI and [Jon McCormack](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0021bcf8b1&e=53e708d2dc" \t "_blank) covered design considerations for real-time collaboration with creative AI. [This New York Times article](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c11fa9ae9c&e=53e708d2dc" \t "_blank) lets you play with generating fake human faces.**Film**. [Merzmensch](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2929d139ec&e=53e708d2dc" \t "_blank) and [Kira Bursky](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9993804208&e=53e708d2dc" \t "_blank) shared experiences of making short films with machine learning, [Transitional Forms](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8346598538&e=53e708d2dc" \t "_blank) released Agence, a dynamic film experience. Denis Shiryaev upscaled old [black and white film footage](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8cde9525ce&e=53e708d2dc" \t "_blank) from 1896. [Warner Bros](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d7948e3e3d&e=53e708d2dc" \t "_blank) signed deal for AI-driven film management system. In the '[Welcome to Chechnya](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5c1b038d74&e=53e708d2dc" \t "_blank)' documentary film, AI swapped out faces to protect identities. MIT aims to educate the public about deepfakes with its '[In the Event of Moon Disaster](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=369b548022&e=53e708d2dc" \t "_blank)' project, while the advocacy group RepresentUs made deepfake ads of [Vladimir Putin and and Kim Jong-Un](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=af44ebc345&e=53e708d2dc" \t "_blank). Actors and filmmakers shared their [behind the scenes](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ad1b1c6b1d&e=53e708d2dc" \t "_blank) experience. Martin Anderson surveyed AI in the [visual effects](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ea65a4274d&e=53e708d2dc" \t "_blank) industry and [DitherNet](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e5e44a0052&e=53e708d2dc" \t "_blank) is a very slow movie player.**Face**. There are projects [replacing your face with a fake](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5865fef402&e=53e708d2dc" \t "_blank), [camouflage garments](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7d9ee9fba9&e=53e708d2dc" \t "_blank), [anti-surveillance make-up](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=72097f691d&e=53e708d2dc" \t "_blank) (there's even a [tutorial by Pussy Riot](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fc03fce612&e=53e708d2dc" \t "_blank)!), [accessoires](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=86a3edd0c5&e=53e708d2dc" \t "_blank), [face masks](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=57310668c2&e=53e708d2dc" \t "_blank), [jewellery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8c91f7e6da&e=53e708d2dc" \t "_blank). There is an app that [anonymises photos and videos](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=81153c06e8&e=53e708d2dc" \t "_blank) and websites that [makes images machine-unreadable](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=59d6a67cb4&e=53e708d2dc" \t "_blank), [anonymise BLM protestors](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2b22132dc2&e=53e708d2dc" \t "_blank) and [scrub images](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c747cb4204&e=53e708d2dc" \t "_blank). [YR Media](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cb8dbc13bb&e=53e708d2dc" \t "_blank)'s *Erase your Face* and [Shinji Toya](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=13645a6314&e=53e708d2dc" \t "_blank)'s *Paint Your Face Away*let you draw or paint over a face to make it unrecognisable. [Devon Schiller](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=df9c03c206&e=53e708d2dc" \t "_blank) considered the development of critical practice using facial recognition, while [Kyle McDonald](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ae45c92833&e=53e708d2dc" \t "_blank) wrote about recent projects around the face and [The New Yorker](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ac8ef0da23&e=53e708d2dc" \t "_blank) has a piece on dressing for the surveillance age.**Tools**. Cyril Diagne launched [ClipDrop](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=7b91418b29&e=53e708d2dc" \t "_blank), an app that lets you capture objects from your surroundings and transfer them into desktop apps. [Open Avatarify](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b3d145ca82&e=53e708d2dc" \t "_blank) has photorealistic avatars for video-conferencing apps. [AI Gahaku](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8a9b490d93&e=53e708d2dc" \t "_blank) transforms your pictures into Reinaissance paintings, [AnimeGAN](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0a9b9e3093&e=53e708d2dc" \t "_blank) into anime and [Toonify](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=19fc7d746d&e=53e708d2dc" \t "_blank) into cartoons. [Scroobly](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b1c9ee56ef&e=53e708d2dc" \t "_blank) brings your doodles to life. [Disney](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=16e8d0684d&e=53e708d2dc" \t "_blank) uses PyTorch for animated character recognition. There are now [self-organising floor plans](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1190de2f5f&e=53e708d2dc" \t "_blank) for care homes, [city map](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0c4da293cd&e=53e708d2dc" \t "_blank), [house layout](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=233b509812&e=53e708d2dc" \t "_blank) and [bedroom generators](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8f5cfe038c&e=53e708d2dc" \t "_blank). [Danielle Baskin](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f86a948819&e=53e708d2dc" \t "_blank) posted a GAN rental unit on Craigslist and there's a community for AI-generated [Russian panel houses](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=09c9ad532b&e=53e708d2dc" \t "_blank). Adobe released a new version of [Photoshop](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9329b9c8b7&e=53e708d2dc" \t "_blank) with five new AI features.   |

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| **📓 Resources 📓**We held the 4th edition of the [NeurIPS Creativity Workshop](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=048658f0d0&e=53e708d2dc" \t "_blank) this year. You can browse the [papers](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=42e296aa29&e=53e708d2dc" \t "_blank) and check out some of the demos including [Musical Speech](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0fe34d5b83&e=53e708d2dc" \t "_blank) and [Latent Compass](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=57feb88f15&e=53e708d2dc" \t "_blank).The video recordings should be available later this month [here](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4238238326&e=53e708d2dc" \t "_blank). Conference recordings include [EVA London](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b7052cd344&e=53e708d2dc" \t "_blank), [AI Music Creativity](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4f1b486b1e&e=53e708d2dc" \t "_blank), Measuring Computational Creativity Workshop at [ISEA](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a98a2ae2e0&e=53e708d2dc" \t "_blank) , *AI for Culture: From Japanese Art to Anime* seminar at [CODH](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=38590c3137&e=53e708d2dc" \t "_blank), [xCOAX](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9c57a06a79&e=53e708d2dc" \t "_blank), [EvoMusArt](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3820b61cf3&e=53e708d2dc" \t "_blank). Magenta and Gray Area organised a [machine learning and music series](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=79dcad73d6&e=53e708d2dc" \t "_blank), including [participant projects](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=409990dea5&e=53e708d2dc" \t "_blank).**Reading.** Montreal-based [Espace magazine](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8e99f9a6f6&e=53e708d2dc" \t "_blank) focussed on creating in the age of AI and [SciArt](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=377dbe9098&e=53e708d2dc" \t "_blank) had 'Algorithmic' as this year's special topic. Academic publications had their own special issues  Entropy on '[AI and Complexity in Art, Music, Games and Design](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=faf7798ae8&e=53e708d2dc" \t "_blank)' and Applied Sciences on [Deep Learning for Acoustics](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=11bae859c4&e=53e708d2dc" \t "_blank). There are also essays on [aesthetics of new AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1a6b30c028&e=53e708d2dc" \t "_blank), on [post-work, online labour and automation](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=042f4f4dc0&e=53e708d2dc" \t "_blank). Marc Garrett made a reading list for [AI technology: Art, Academia and Activism](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=eb44200152&e=53e708d2dc" \t "_blank), Alex Champandard has one for [texture synthesis](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=22294d8932&e=53e708d2dc" \t "_blank). [Jason Webb](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3943785c8c&e=53e708d2dc" \t "_blank) has some resources on digital morphogenesis and Scott Hawley on [ML-Audio](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=debb3c3cdb&e=53e708d2dc" \t "_blank). Emil Wallner made a database of [machine learning art](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=78aebbb334&e=53e708d2dc" \t "_blank). Sam Lavigne has a guide to [web scraping](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=03ee578e4a&e=53e708d2dc" \t "_blank) as an artistic and critical practice.**Books.** Joanny Zylinska published [AI Art: Machine Visions and Warped Dreams](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0af1ecfa07&e=53e708d2dc" \t "_blank). Ben Vickers & K Allado-McDowell edited [Atlas of Anomalous AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9f76d72eee&e=53e708d2dc" \t "_blank) with contributions from writers, philosophers and curators. Lev Manovich published [Cultural Analytics](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f418e9de89&e=53e708d2dc" \t "_blank). Vladan Joler and Matteo Pasquinelli published [Nooscope](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9e16710041&e=53e708d2dc" \t "_blank), a diagram of machine learning errors, biases and limitations.**Talks**.There are talks from Dr Matthew Guzdial at [AI and Games](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e100a55f94&e=53e708d2dc" \t "_blank), Allison Parrish's tutorial at [PyCon 2020](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=46a6ee49a9&e=53e708d2dc" \t "_blank), Refik Anadol's [TED Talk](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5e375a9487&e=53e708d2dc" \t "_blank), Melissa Avdeeff on [AI, popular music and copyright](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5966dde213&e=53e708d2dc" \t "_blank). Podcast recordings from [Creative Next](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0d2051577c&e=53e708d2dc" \t "_blank), Joel Simon on [Soft Robotics](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=03e3abd784&e=53e708d2dc" \t "_blank), Pindar van Arman on [The AI Podcast](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=40a4ca8a10&e=53e708d2dc" \t "_blank). [SensiLab](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=974ddae9a7&e=53e708d2dc" \t "_blank) launched its second podcast season with an [interview with me](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=48d6283766&e=53e708d2dc" \t "_blank). **Courses.** [FutureLearn](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bf03910ceb&e=53e708d2dc" \t "_blank) released a course introducing creative AI, while [Parag Mital](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9a271b29b9&e=53e708d2dc" \t "_blank) made one on cultural appropriation with machine learning. [Artificial Images](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8de7ea502f&e=53e708d2dc" \t "_blank) has tutorials on making art with machine learning. Allison Parrish's course Materials of Language has a [reading list](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a554057035&e=53e708d2dc" \t "_blank) and [notebooks](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e627fc9242&e=53e708d2dc" \t "_blank) available online. Dennis Tennen has a course on [literature in the age of AI](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=e28bb739bf&e=53e708d2dc" \t "_blank). [Jordi Pons](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=eceffc0dc9&e=53e708d2dc" \t "_blank) put online teaching materials on deep neural networks for music.**Tools**. I made a list of 60+ machine learning tools for [The Creative AI Lab](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3748eee31d&e=53e708d2dc" \t "_blank). Here is [my interview](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=333c31c7dd&e=53e708d2dc" \t "_blank) providing an overview. There's now an [AI: A Museum Planning Toolkit](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=1677f5ee38&e=53e708d2dc" \t "_blank) produced by Oonagh Murphy, to which I contributed a glossary with project examples. There is Anton Marini's [Synopsis](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=841e7c451d&e=53e708d2dc" \t "_blank), a suite of open source software for computational cinematography; Hugging Face's [Transformers](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2d4592a1e9&e=53e708d2dc" \t "_blank) with state-of-the-art NLP models and demos; [Kritik Soman](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f92cc85b55&e=53e708d2dc" \t "_blank)'s machine learning for GIMP; [Pose Animator](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3c348ef565&e=53e708d2dc" \t "_blank), enlivening an illustration from real-time person movements; [Pembroiderer](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=aaf2a1f407&e=53e708d2dc" \t "_blank) is an open library for computational embroidery. [Andrej Karpathy](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=3f002300ed&e=53e708d2dc" \t "_blank) made a minimal GPT training library in PyTorch. [Anand Padwara](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=91c2ae1970&e=53e708d2dc" \t "_blank) made a real time image animation application in OpenCV. [Anastasia Opara](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c321ac38c7&e=53e708d2dc" \t "_blank) made a genetic algorithm project for drawing. [Sensity](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a68224f1ac&e=53e708d2dc" \t "_blank) (formerly DeepTrace) has a deepfake detection tool. [Elad Richardson](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2068ac3259&e=53e708d2dc" \t "_blank) released the official implementation for pixel2style2pixel; [Clova AI Research](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=8fb29ff230&e=53e708d2dc" \t "_blank) theirs for StarGAN v2, diverse image synthesis for multiple domains. There's already an implementation by lucidrains of the newly released [DALL-E](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4e83d47b3f&e=53e708d2dc" \t "_blank), Open AI's text to image transformer.**Datasets** include 150,000 botanical and animal illustrations from the [Biodiversity Heritage Library](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b781874c5e&e=53e708d2dc" \t "_blank); 321,178 works of art from [Paris Museums](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ad62c97c58&e=53e708d2dc" \t "_blank), face images from [Japanese illustrations](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4582fd668c&e=53e708d2dc" \t "_blank), 2.8 million images from the [Smithsonian](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ca1dd96799&e=53e708d2dc" \t "_blank), 2,500 novel English words published in [The New York Times](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4594f4af0b&e=53e708d2dc" \t "_blank); 1,774 images created by computational artist [Andy Lomas](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ecfae153a7&e=53e708d2dc" \t "_blank); 1 million playlist dataset by [Spotify](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9d95e15a53&e=53e708d2dc" \t "_blank); 15 million CAD sketches with geometric constraint graphs by [Princeton LIPS](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=eed27f6bfb&e=53e708d2dc" \t "_blank); 196,640 books in plain text by [Shawn Presser](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a5bfd70867&e=53e708d2dc" \t "_blank); a repository of motion capture data by the choreographer [Alexander Whitley](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a70a6fd9e2&e=53e708d2dc" \t "_blank); the [Freesound Loop Dataset](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ed15f1e38a&e=53e708d2dc" \t "_blank) of annotated music loops and [GiantMIDI-Piano](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2a339b5673&e=53e708d2dc" \t "_blank) of 10,854 MIDI files of 2,786 composers.   |

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| **🚀 Opportunities 🚀****Calls for Papers:** [ISMIR](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9d57a4347b&e=53e708d2dc" \t "_blank) has a call for papers for its special issue on AI and Musical Creativity until 28th February; The second Workshop on [Human-AI Co-Creation with Generative Models](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c7a01dcb49&e=53e708d2dc" \t "_blank) has a paper and demo submissions deadline on 15th January; [ICCC](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=06d30b6d7f&e=53e708d2dc" \t "_blank) has a call for papers on computational creativity until 5th March; [Urban Assemblage](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=16229c4176&e=53e708d2dc" \t "_blank): The City as Architecture, Media, AI and Big Data has a call for abstracts until 1st April; [SIGGRAPH](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=826afcfaf4&e=53e708d2dc" \t "_blank) has an art papers track, submit by 15th January; [Conference on AI Music Creativity](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=75672adf88&e=53e708d2dc" \t "_blank) has a call for papers and music until 1st April.**Open calls:** [Science Gallery Detroit](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fa5c74d358&e=53e708d2dc" \t "_blank) seeks artworks, interventions and research projects for its *Tracked and Traced* exhibition, apply until 5th February. [Adobe](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ff19cc08be&e=53e708d2dc" \t "_blank) has a Creative Residency Community Fund for visual creators. [MediaFutures](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=56f3f1b9ff&e=53e708d2dc" \t "_blank) is looking for artists and startups eager to reshape the media value through applications of data and user-generated content until 28th January. [AI Song Contest](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=713f8b0564&e=53e708d2dc" \t "_blank) is back, submit your songs by 18th May. [EuropeanaTech Challenge](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=110198d850&e=53e708d2dc" \t "_blank) seeks proposals for the assembly of suitable AI/ML datasets until 31st January.The [School of Digital Arts](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=86bf14813e&e=53e708d2dc" \t "_blank) in Manchester is recruiting a Research Fellow in Digital Arts Practice and AI. Oh, and [Runway](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=18d8e45ab1&e=53e708d2dc" \t "_blank) and [Artbreeder](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=bfb0bd112b&e=53e708d2dc" \t "_blank) are hiring :)   |

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| **😃 Exhibitions😃****To see in 2021:** In **Spain**, [LABoral](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=04ddbaec3a&e=53e708d2dc" \t "_blank)'s exhibition *When the butterflies of the soul flutter their wings* on art, neuroscience and AI is open until 24th April. **London's** [Furtherfield Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=b9ad199cda&e=53e708d2dc" \t "_blank) is exhibiting the *UNINVITED* art installation by Nye Thompson and UBERMORGEN, looking at what happens when networked surveillance tools and AI capabilities get sick in the head until 31st January. **Berlin's** [CTM](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=a78d771480&e=53e708d2dc" \t "_blank) will feature *Apotome*, a generative music environment for microtonal tuning systems, created by Khyam Allami and Counterpoint. In **Melbourne**, Refik Anadol's *Quantum Memories* are on view for the [NGV Triennial](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=821f1483c2&e=53e708d2dc" \t "_blank), while [RMIT Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=84d2e3a45b&e=53e708d2dc" \t "_blank) plans the *Future U* exhibition featuring creative responses to the potential implications of the rapid developments in AI and biotechnology, tentatively scheduled from 25th June until 9th October.In the **US**, [Honor Fraser Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=6a07f85fce&e=53e708d2dc" \t "_blank) explores the relationship between visual arts and the cybernetic world in *Thin as Thorns, In These Thoughts in Us* until 20th February. [bitforms gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=0f96f09f58&e=53e708d2dc" \t "_blank) is hosting *Alchemical*, a collaborative exhibition by Casey Reas and Jan St. Werner until 14th February. *Curatorial A(i)gents,* a series of machine-learning-based experiments with museum collections and data is scheduled to run for nine weeks beginning 1st February at [Harvard's metaLAB](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=4be2d0f871&e=53e708d2dc" \t "_blank).**From 2020**. In the summer, I co-curated the *Real Time Constraints* exhibition in the form of a browser plugin with [arebyte](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=94323f2db4&e=53e708d2dc" \t "_blank). [Merzmensch](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=99dfe0fca1&e=53e708d2dc" \t "_blank) did a useful write-up. Other exhibitions in the online format include [Datasets vs Mindsets](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=731f249746&e=53e708d2dc" \t "_blank) and Silent Works from the [The Berliner Gazette Winter School Program](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ce955cff3f&e=53e708d2dc" \t "_blank). AI-related shows included Algotaylorism at [Kunsthalle Mulhouse](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=645b364625&e=53e708d2dc" \t "_blank) about artists working at the human-machine junction point; *Mind the Deep* at [Shanghai Ming Contemporary Art Museum](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=d25067139b&e=53e708d2dc" \t "_blank); *Human Learning - What Machines Teach Us* by the [Canadian Cultural Centre](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=547979638e&e=53e708d2dc" \t "_blank) in Paris; [GANLand](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=aa61d56205&e=53e708d2dc" \t "_blank) at DAM projects; *Neurons, simulated intelligence* at [Centre Pompidou](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=c725768bc1&e=53e708d2dc" \t "_blank); *Uncanny Valley: Being Human in the Age of AI* at [de Young museum](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cb3c2ca8e8&e=53e708d2dc" \t "_blank) (review in [Art in America](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2809b1ed57&e=53e708d2dc" \t "_blank)); Cyborg Subjects at [esc median kunst labor](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=28660e4127&e=53e708d2dc" \t "_blank); *Real Feelings* at [HeK Basel](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=f37f469d21&e=53e708d2dc" \t "_blank); *AI: Love and Artificial Intelligence* at [Hyundai Motorstudio Beijing](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=49ae9b23eb&e=53e708d2dc" \t "_blank); *A.I., Sunshine Misses Windows* at [Daejeon Biennale](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=fc06dcf3f4&e=53e708d2dc" \t "_blank); ARCU & OHM at [HALLE 14](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=ff166746b9&e=53e708d2dc" \t "_blank); *Future and the Arts: AI, Robotics, Cities, Life* at [Mori Art Museum](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=816bab9087&e=53e708d2dc" \t "_blank); *How to Make Paradise* at [Frankfurter Kunstverein](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=2b9016cc0b&e=53e708d2dc" \t "_blank). Solo shows included Trevor Paglen's *Bloom* at [Pace Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5a29113380&e=53e708d2dc" \t "_blank) (write-up in [Art in America](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=9875485209&e=53e708d2dc" \t "_blank)); *Hito Steyerl.I Will Survive* at [K21](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=24ea28dc51&e=53e708d2dc" \t "_blank); Jenna Sutela's *NO NO NSE NSE* at [Kunsthall Trondheim](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=cdf790ff2a&e=53e708d2dc" \t "_blank) and Ben Snell's *Embodiments* at [Blackbird Gallery](https://elluba.us15.list-manage.com/track/click?u=c7e080421931e2a646364e3ef&id=5927ad7fee&e=53e708d2dc" \t "_blank).  |

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| *Thanks for getting this far. It has been a long one. Anything I missed? Drop me a line if you have any updates I should include or if you need any creative AI-related help.* |

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