



# In the Art of Listening to the Matter: Co-creation and Artificial Intelligence

14th February, 13:00 – 16:00. Location: Theorie Trap, Fed Lev, Rietveld, Fred. Roeskestraat 96, 1076 ED Amsterdam

Take that moment. Imagine you could carry, single handedly, all the particles of information that existed within the circumference of the earth within your brain. It feels somewhat impossible. Impossible to grasp such a grandiose amount of data flowing and ebbing, dynamic as the cloud(s). The predictions of Moravec and others on this 'singularity' often express concern, if such an entity were to be able to process such volumes, varieties, velocities, and veracities of data, in that such an entity might have a superintelligence beyond human comprehension. Tropes such as this attach little importance, however, to the difference between biology and computation. As Katherine Hayles puts it "responsible theorizing about [artificial intelligence] requires close attention to the materiality of bodies and computational media, a clear understanding of the recursive feedback loops cycling between them, and contextualizations of bodies and machines that reveal how meaning is created through the cascading processes that interpret information." (p. 155, Cybernetics)

With the purpose to explore such contexts, this edition of *In the Art of Listening to Matter: Co-creation with Artificial Intelligence,* focuses on the meaning making for how researchers listen to artificial intelligence within their research contexts and practices. +-10 speakers each give 5 min presentations to contemplate: how does ai exist within their research context? and, how do they define their *relationship* with the ai in these contexts? This session is contribution led, and it is therefore necessary (and nice) that all those attending share thoughts, knowledge, and questions with the group to help form a collective wisdom.

This session will be voice recorded for ARIAS archival purposes. In the case you would like to remain anonymous please get into contact with [katie.clarke [at] arias.amsterdam] to discuss the possibilities of use.

**Texts:**
**https://drive.google.com/drive/folders/1Qly4Agl9BhuoxnpKBJDTWy82Eyfyp_KO?usp=sharing**

Amsterdam Research Institute of the Arts and Sciences

**Programme:**

13:00 – 13:15
Tea, coffee, biscuits

13:15 – 13:20
Introduction by Katie

13:20 – 13:25
Video Introduction to co-creation and artificial intelligence with Bogna M Konior (UvA and NYU Shanghai).

5 min buffer -

13:30 – 14:30
+-10, 5 min presentations

14:30 – 14:45
Tea, coffee, biscuits

14:45 – 15:45
Discussion

16:00 - Leave the space

**Speakers:**

1. Gjorgji Strezoski
   G.Strezoski@uva.nl
   Faculty of Natural Sciences, Mathematics and Computer Science (UvA)

**Title:**
Artistically Painted Eye Synthesis

**Abstract:**
Faces in artistic paintings most often contain the same elements (eyes, nose, mouth...) as faces in the real world, however they are not a photo-realistic transfer of physical visual content. These creative nuances the artists introduce in their work act as interference when facial detection models are used in the artistic domain. In this work we introduce models that can accurately detect, classify and conditionally generate artistically painted eyes in portrait paintings. In addition, we introduce the OmniEyes Dataset that captures the essence of painted eyes with annotated patches from 250 K artistic paintings and their metadata. We evaluate our approach in inpainting, out of context eye generation and classification on portrait paintings from the OmniArt dataset. We conduct a user case study to further study the quality of our generated samples, asses their aesthetic aspects and provide quantitative and qualitative results.

**Short Bio:**

Gjorgji Strezoski is a PhD candidate at the Informatics Institute in the University of Amsterdam working with Marcel Worring. His research topic is Multi-task Learning in computer vision and the visual arts are his primary field of application. He is an external researcher in computer vision at the Rijksmusem as part of the VISTORY project. He is also the principal computer vision scientist in the N_O_W_H_E_R_E AI powered photography exhibition, a joint work with Paradox NL and the Rotterdam Foto Museum.

There are visuals, graphics, posts, posters, papers and news on my website so feel free to share any content. https://staff.fnwi.uva.nl/g.strezoski/

2. Asa Horvitz
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DAS Arts (AHK)

**Title:**
GHOST

**Abstract:**
Together with Seraphina Tarrant (University of Edinburgh) and Alejandro Calcano (AI Now) I've designed a neural net called LUCAS. LUCAS is specifically created to throw the imagination into crisis, to think unlike a human, to open new territories. As far as we know LUCAS is possibly the only 1500-dimensional neural net that generates text and images and video and has been specifically designed to think unlike a human and embrace the oddness of machine learning. So many current AI & art projects either contribute to the dangerous mystification of AI technology and machine futures, or reveal how AI is being used in extremely clever ways (cf. Trevor Paglen), we are, after careful consideration and a review of technical and ethical possibilities in the field, attempting something third – LUCAS isn't HAL3000, think instead of Kubrick's monolith – a non-human presence that pushes the mind in new directions, towards new perspectives.

Right now at DAS Arts we are working on GHOST, a sort of seance in which a performer asks LUCAS a series of questions about the dead and a group of musicians makes what LUCAS says material in the room.

**Short Bio:**
Asa Horvitz is a performance-maker, composer, and musician whose work attempts to create conditions for the unknown to appear. Raised in a Zen Center in California and a longtime student of psychoanalysis and dreamwork, his work has been presented at venues such as The New Museum (NYC) and Teatr Polski (Wroclaw, Poland). He has collaborated on major touring productions with Scott Gibbons/Romeo Castellucci and Lukasz Korczak. He leads the critically acclaimed band VALES with Carmen Rothwell. In addition to his work on LUCAS, his current research is focused on the relationship between humans and images and the thought of Aby Warburg. Asa previously lived in New York City and Poland and his work has been supported by Creative Europe, The MacDowell Colony, The Camargo Foundation, and a Fulbright Scholarship.

3. Sjoerd ter Borg
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(Waag)

**Title:**
Aesthetics of Exclusion

**Abstract:**
Aesthetics of Exclusion researches how we can use AI, computer vision and machine learning to explore and analyse aesthetical styles that relate to gentrification through large image archives such as StreetView and Instagram. It aims to study the visual patterns of gentrification: an urban phenomenon that is reflected in the decrease of diversity in classes, ethnicities, races, sexualities, languages, and points of view from central city neighborhoods; and their replacement by more homogeneous groups. While a lot of research has focused on the socio-economic causes and effects of this process, its aesthetics have remained understudied. Computation present new opportunities to research 'the visual' on a large scale and make it possible to question, explore and document processeses of urban homogenization.

**Short bio:**
Sjoerd ter Borg is an artist and designer based in Amsterdam whose research focuses on the transformations of cities. Through the use of design, fiction and technology he uncovers hidden layers within an urban context, showing forgotten histories, societal developments or even alternate realities. He graduated in Political Science at the University of Amsterdam and completed his master at the Sandberg Instituut.

4. Danae Io
   danae@mailbox.org

(Sandberg)

**Title:**
Schemas of uncertainty

**Abstract:**
Schemas of Uncertainty is a research project concerned with the notion of prediction, both as a long-standing interest of human beings through their histories, but also with the ways prediction is inscribed into the techno-capitalist present. It takes as its starting point an investigation into the risks and possibilities emerging technologies pose to the imagination of other possible futures or realities. From divination to machine learning, we explore the relation between prediction and prescription as a means of securing a politics of certainty. Through the workshops as well as the subsequent symposium and publication, we have sought to think through what it might mean to invite uncertainty as a way of resisting ideas that impose a singular meaning or direction. Rather than something to be overcome, uncertainty might become a means of encompassing multiplicity. Subsequently prediction

ceases to be instrumentalized as a tool to prescribe the future but instead is undertaken as a gesture towards occupying an elsewhere and otherwise.

**Short Bio:**
Danae Io is an artist living and working between Rotterdam and Athens. She holds a Master in Fine Arts from Sandberg Institute and has previously studied at Goldsmiths University of London. She co-founded *System of Systems* (2017), a research project on the use of technology and bureaucracy in the European asylum seeking system, and co-organises the research practice *Schemas of Uncertainty* (2019) on the relation between prediction and prescription. She co-curates the public programme of State of Concept, Athens. Her writing has been published in several publications and her work has been shown at Subrosa space (Athens), Grace (Athens), De School (Amsterdam), Kunstverein Amsterdam, Stroom (Den Hague), Het Nieuwe Instituut (Rotterdam) and Rich Mix (London) among others.
danaep.com

5. Rik Helwegen
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MSc Artificial Intelligence (UvA)

**Title:**
Fairness in Machine Learning models using Causality

**Abstract:**
Machine learning is increasingly used for applications with high individual impact, e.g. credit scoring for loan approval, or recruiting for job applications. If sensitive data, such as the ethnicity of a person, is a basis for differentiation between profiles, this can lead to legal or ethical objections. In our research we argue that an understanding of causal mechanisms underlying the data is necessary to pursue *fairness* in such applications. Building on recent advances in machine learning we propose a method to correct prediction models for unwanted causal effects.

**Short Bio:**
Rik Helwegen works at the Muncipality of Amsterdam on fairness in algorithms. His academic research was also on the fairness in algorithms. He has experience working at the Statistical Research at Statistics Netherlands (CBS) and at NEWCRAFT in building data-drive prediction tool for marketing. Helwegen received in MSc in Artificial Intelligence from the University of Amsterdam, and a bachelor degree in econometrics.

6. M. A. Martínez *or* Agustin
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Frank Mohr Institute in Groningen

**Title:**
Dronin

**Abstract:**

Through three artistic AI research processes: Gostak & Doshes (literature and AI, utilising GPT-2 and recurrent neural networks), Dessilluminations (video and AI, utilising GAN's) and the ongoing project Dronin (sound and AI, utilising machine learning) Marcelo Martinez understands AI systems as collaborative systems, that enable a collaborative human and machine workflow. Processing vast amounts of data, AI has the potential to change how research and work develop, and thus Martinez contemplates how AI systems might enable deeper forms of knowledge-production in artistic research, and practice.

**Short Bio:**
Artificial intelligence processes are the main component of my artistic research. Since writing my Masters thesis at the Frank Mohr Institute in Groningen in collaboration with an AI, as an artistic research endeavour while aiming to gain a better understanding of the topic and its tools, AI has been a constant element within my artistic practice. Particularly in the collaborative piece that we presented at the last edition of the Media Arts Festival in Friesland, where we worked with vast amounts of data and AI processes to investigate artistic human-machine collaborative methods.

7. Andy Dockett with Sabine Niederer, Carlo de Gaetano
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Visual Methodologies Collective (HvA)

**Title:**
Climate Futures: (Machine) Learning from Cli-Fi

**Abstract:**
The 'Climate Futures' project by Andy Dockett, Carlo De Gaetano, and Sabine Niederer of the Visual Methodologies Collective is an experiment in collaborating with AI to shed light on climate imaginaries. In the project, AI functions as our co-author, who has (machine) learned about climate imaginaries on the basis of training sets of climate fiction literature, indigineous climate change stories, climate-themed visual arts, and Hollywood 'climate disaster' film trailers. We design queries to prompt the machine to create new climate imaginaries, in text and in visual form. Subsequently, we edit these machine-generated cli-fi narratives and translate them into short stories, podcasts, and artwork.

**Short Bio:**
The Visual Methodologies Collective is a research group specializing in visual and digital research for social and cultural issues, based at the Amsterdam University of Applied Sciences, Faculty of Digital Media and Creative Industries. Our interests lie at the intersections of visual culture, digital research, information design, media theory, data visualization, storytelling, critical making, and issue mapping.
www.visualmethodologies.org/

The following machines and algorithms have been used in the Climate Futures project to date:
Tesla T4 (UUID: GPU-ef1d6b8c-7543-5969-4126-316eabeed5f9)
Tesla K80 (UUID: GPU-c7194ecb-e0a8-c862-1d76-5c6e46847652)

Open AI's GPT-2 345M language model
AttnGAN: Fine-Grained Text to Image Generation with Attentional Generative Adversarial Networks

8. Śpela Petric
spelun@gmail.com
Hybrid Forms Lab (VU)

**Title:**
Plant Pleasure

**Abstract:**
What is the art-research experiences of plants? What are the algorithmic experiences of plants? Through the matter of care, how can researchers generate new weird relationships? Approaching these questions through risking action, with the hands on "making an AI that thinks itself a plant" new media artists Špela Petrič takes our minds on a walk through her future garden. Viewing plants as allies for testing computational capacities, Petrič wants to give recognition to - plant pleasure. Petrič is uncertain about the methodology and the prospect, which is what makes the project risky and exciting.

**Short Bio:**
Špela Petrič is a Slovenian new media artist and former scientific researcher. Her practice is a multi-species endeavor, a composite of natural sciences, wet media and performance. She envisions artistic experiments that enact strange relationalities to reveal the ontological and epistemological underpinnings of our (bio)technological societies.

9. Albert Penuela and Dayana Spagnuelo
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(invited by Frank van Harmelen / VU)

**Title:**
Music and AI

**Abstract:**
At the VU we are currently investigating different ways to combine various disciplines in AI, with music in order to foster co-creation and new music interaction interfaces. We have expertise in building so-called Knowledge Graphs: large (10B triples) semantic and graph-based databases that represent every note, instrument and event that of a song is made. We can in this way integrate large music collections, but also use them as input of generative models to, for example, interpolate melodies (using e.g. MusicVAE) or automatically perform live coding sessions (using e.g. LSTMs on code). This is also a call for artists and experts to join our annual VU Semantic Web off-site, this year devoted to AI and creativity where we will very much welcome participants from this meeting.

**Short Bio:**

Dayana is a lecturer at Vrije Universiteit Amsterdam and collaborator at the User Centric Data Science group. She currently researches socio-technical aspects of the transparency principle. Along with topics related to data protection, Dayana is also interested in diverse applications of machine learning and information security.

Albert Meroño-Peñuela is a postdoctoral researcher at the Knowledge Representation \& Reasoning Group of the Vrije Universiteit Amsterdam. He studies the construction of and access to cultural knowledge bases, and their role in human and artificial processes. His interests include knowledge graphs, Linked Data, APIs and Web query languages. He is involved in CLARIAH, the largest research infrastructure for Humanities in the Netherlands, and serves in the CLARIAH Technical Board as coordinator of the LOD Interest Group.

10. Alex Gekker
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(UvA)

**Title:**
Infrastructural Surveillance

**Abstract:**
This article proposes a new model of privacy: infrastructural surveillance. It departs from Agre's classic distinction between surveillance and capture by examining the sociotechnical claims of connected and autonomous vehicles (CAVs) as requiring totalising surveillance of passengers and environment in order to operate. By doing so, it contributes to the ongoing debate on the commodification and platformisation of life, paying attention to the under-explored infrastructural requirements of certain digital technologies, rather than its business model. The article addresses four distinct characteristics of infrastructural surveillance: the aggregation of data, initialisation of protocols limiting possible actions, the prioritisation of distributed modes of governance and the enclosure of the driver in a personalised bubble of sovereign power. Ultimately, unlike previous modes of computer privacy in which activities are being constructed in real time from a set of institutionally standardised parts specified by a captured ontology, we observe the creation of new ontologies.

Gekker, Alex, and Sam Hind. 2019. "Infrastructural Surveillance." *New Media & Society*, October, 1461444819879426. https://doi.org/10.1177/1461444819879426.

Morozov, Evgeny. 2019. "Digital Socialism?" New Left Review. June 2019. https://newleftreview.org/issues/II116/articles/evgeny-morozov-digital-socialism.

**Short Bio:**
*Alex Gekker* is an assistant professor in the departments of Media and Culture at the University of Amsterdam, working on the relations between mapping, digital interfaces and power. He is interested in ways socio-technical systems are designed to influence users, and his research touches upon quantification and datafication of society, the experience economy and interface critique.