



COMPUTING
THE HUMAN
[conference]

October 26-28/2023
Masaryk University, Brno
Czech Republic
[on site and online]

[Venue]
Masaryk University, Faculty of Social Sciences,
Joštova 218, 602 00 Brno / Room: 34

[PROGRAMME]

Day 1 [October 26]

- 13:00–13:30 Opening of the conference
- 13:30–14:30 Kathleen Richardson [keynote speaker]
Critical Perspectives on Autism and Robot Therapy
- 14:30–14:45 coffee break
- 14:45–15:45 Sven Nyholm [keynote speaker]
Generative AI's Gappiness: Meaningfulness, Authorship, and the Credit-Blame Asymmetry
- 15:45–16:00 coffee break
- 16:00–17:00 Luisa Damiano [keynote speaker]
Exploring Artificial Empathy/A philosophical path from theoretical models to ethical implications
- 17:00–17:10 The end of the first day of the conference

Day 2 [October 27]

- 9:00–9:30 morning coffee
- 9:30–10:30 Benjamin Lipp [keynote speaker]
Interfacing the Human/Machine. (Post)Social Theory in an Age of 'Intelligent' Technology
- 10:30–10:45 coffee break
- 10:45–11:45 Michael Morrison [keynote speaker]
Data doubles and other monsters haunting medical AI
- 11:45–13:15 lunch break
- PANEL 1: ART AND PHILOSOPHY OF AN ARTIFICIAL LIFE / Ilaria Fornacciari [chair]**
- 13:15–14:45 Michal Šimůnek: *The Decisive Moment*
Barbora Trnková: *Autoportrait of the Nonhuman, look of internalized machine gaze*

Joshua D. Fahmy Hooke: *Martin Heidegger's Concept of Understanding (Verstehen): An Inquiry into Artificial Intelligence*

Christoph Hubatschke: *Improvising with Stuttering Algorithms Critical Perspectives on Humanoid Robots, AI and Contemporary Dance*

14:45–15:00 coffee break

PANEL 2: EMOTION MACHINES / Eva Theunissen [chair]

15:00–16:30 Zeenia Bhat: *Robotic Error: An analysis of a Robot's Incapability to Lie.*

Laura Castillo Bel: *The cognitive study of empathy in the reception of narrative fiction. Fiction as a mode of emotion training for AI.*

Giovanni Salvagnini Zanazzo: *"I feel" or "I think"? What We Expect from AI's Self-Consciousness*

Hana Holubec: *Laboratory Laugh: The Production of Laughter in the ERICA Project*

16:30–16:45 coffee break

16:45–17:45 Tomáš Hříbek [keynote speaker]
Imaginary and Real Robots: from the R.U.R. to Nanorobots

17:45–17:55 The end of the second day of the conference

Day 3 [October 28]

9:00–9:30 morning coffee

ROBOTS FOR KIDS

09:30–10:30 Michaela Jirout Košová
Children vs. AI: Robots are "Soulless Machines"

10:30–10:45 coffee break

PANEL 3: HUMAN FACTOR / Eva Theunissen [chair]

10:45–12:15 Libuše Hannah Vepřek: *Unraveling the "human-in-the-loop" paradigm: From imagination and materialization to negotiation*

Kyle Thompson: *Do People Have Politics? A Winnerian Critique of AI Artifacts*

Dustin Breitling: *Xenopatterning Generator*

Hugo F. Idarraga: *Computation of humans: limitations from an Amerindian perspective*

12:15–13:15 lunch break

PANEL 4: DESIGN THINKING AI / Ilaria Fornacciari [chair]

13:15–15:00 Pavel Doboš (co-authors: Veronika Kotýnková, Robert Osman, Hana Porkertová)
Movement of people with visual impairments: the influence of technologies

Yunqing Han: *Woman, Man, and Maybe More All at Once: A New Way of Imagining the Embodiments of "Gender-Neutral" Robots*

Fintan Mallory: *Fictionalism about Social Machines*

Short Brenden: *Art Incarnate: How Lack of a Body Affects AI Art*

Petr Špecián: *Reimagining Institutions through Generative AI*

15:00–15:15 coffee break

INSPIRE YOURSELF! (ADAPTATION PANEL)

15:15–16:15 Miloš Čermák: *How GenAI Increases Human Creativity*

Senta Čermáková: *Where to Expect LLMs Hallucinations, and Where Not*

16:15–16:25 The end of the conference

The image features a vertical gradient background transitioning from light purple at the top to a darker blue-purple at the bottom. Overlaid on this is a complex, symmetrical pattern of concentric, diamond-shaped lines that create a textured, woven appearance. The lines are most prominent in the center and fade towards the edges.

[ABSTRACTS]

Day 1 [October 26]

KATHLEEN RICHARDSON

[De Montfort University] [keynote speaker]

Critical Perspectives on Autism and Robot Therapy

Since the late 1990s roboticists have speculated that robots could help children with autism spectrum conditions. The widespread importance of the Simon Baron-Cohen's and others biological basis to autism based in sex differences between males and females have almost supplanted any social model of autism. This set up the conditions for representational technologies of the human; particularly robots and animations featuring inanimate objects "socialising" to be offered as therapeutic for children with autism. These techno-therapeutic approaches are based on models of autism that have come to dominate in the academy. Moreover, whereas academic narratives drew attention to the social construction of social and developmental differences, the prominence of neuroscience and identity politics have meant that affirmation is the order of the day. This talk will present a critical perspectives on current shifts in narratives of autism.

Kathleen Richardson is professor of Ethics and Culture of Robots and AI at De Montfort University. Kathleen's books include: *An Anthropology of Robots and AI: Annihilation Anxiety and Machines* (2015) and *The Sexual Politics of Sex Robots and Sex Dolls* (2022). Her book, *Challenging Sociality, Attachment, Autism and Robots* (2018) explores the development of therapeutic robots for helping children develop social skills.

<https://www.dmu.ac.uk/about-dmu/academic-staff/technology/kathleen-richardson/kathleen-richardson.aspx>

SVEN NYHOLM

[LMU Munich] [keynote speaker]

Generative AI's Gappiness: Meaningfulness, Authorship, and the Credit-Blame Asymmetry

The presentation will discuss the relation between outputs from generative AI technologies (such as texts, images, or music) and the meaning, authorship, and responsibility that we usually associate with similar outputs (texts, images, or music) when they are created by human beings. I will argue that there are philosophically interesting gaps with respect to the meaning and the authorship of – and the possibility of credit and blame for – outputs created by, or with the help of, generative AI technologies, such as large language models. In particular, I will argue that there is an important asymmetry with respect to credit and blame for outputs of generative AI technologies: it is harder to deserve credit for impressive outputs of generative AI technologies than it is to be blame-worthy for harmful outputs of generative AI technologies.

Sven Nyholm is Professor of the Ethics of Artificial Intelligence at LMU Munich. He is also a Principal Investigator in the Munich Center for Machine Learning and an Associate Editor of the journal *Science and Engineering Ethics*. Nyholm's recent publications include the book *This is Technology Ethics*, which was published in 2023 by Wiley-Blackwell. His research is about how modern technologies – such as artificial intelligence – force society to rethink and update traditional moral norms as well our human self-conception.

LUISA DAMIANO

[IULM University] [keynote speaker]

Exploring Artificial Empathy/A philosophical path from theoretical models to ethical implications

Social Robotics is an emerging branch of contemporary Robotics dedicated to the production of robots capable of communicating with us humans through social signals compatible with ours, and destined to a wide variety of socially relevant uses, ranging from information to marketing, from educational and therapeutic mediation to coaching and training. One of the most interesting research lines in Social Robotics

is “Artificial Empathy”, which is engaged in designing and constructing social robots capable of communicating effectively with humans through affective signals – i.e., emotions. The interest of specialists in Social Robotics for Artificial Empathy is based on two main reasons. First of all, producing “emotional” or “empathic” robots means contributing significantly to the “genuinely scientific” goal of creating artificial models (i.e., hardware models) of natural cognitive processes – that is, a class of processes to which emotions belong, according to the contemporary embodied approach in cognitive sciences and AI. Secondly, from the point of view of Social Robotics, “competence” in affective communication is an indispensable trait for robots designed to interact socially with humans, especially in domains related to assistance. Indeed, within the field, this ability is thematized as one of the essential ingredients of a robot’s credible “social presence”, broadly construed as its capability of generating in humans the impression of being in company of “someone” – i.e., functioning as an “artificial social partner” for human users.

This presentation proposes an epistemological exploration of the domain of Artificial Empathy with a twofold objective: defining the theoretical models of emotions underlying current research engaged in the creation of “social” and “empathic” robots; discussing the implications of these models for the future of our social ecologies, particularly with regard to the issue of a “socially sustainable” diffusion of these new robots.

Luisa Damiano (PhD) is full professor of logic and philosophy of science at the IULM University, where she directs the PhD School for Communication Studies and co-directs the research center CRiSiCo. Her main research areas are: Epistemology of Complex Systems; Epistemology of the Cognitive Sciences; Epistemology of the Sciences of the Artificial. Since 2007, she has been working on these topics with scientific teams (Origins of Life Group, University of Rome Three, Rome, Italy; Adaptive Systems Research Group, Developmental Robotics Division, University of Hertfordshire, Hatfield, United Kingdom, Graduate School of Core Ethics and Frontier Sciences, Ritsumeikan University, Kyoto, Japan). Since 2011, she coordinates the Research Group on the Epistemology of the Sciences of the Artificial (RG-ESA). Among her publications there are many articles, the books *Unità in dialogo* (Bruno Mondadori, 2009) and *Living with robots* (with P. Dumouchel, Harvard University Press, 2017, originally

published in French by Seuil, 2016, in Korean by HEEDAM, 2019, and in Italian by Raffaello Cortina, 2019; in publication in Chinese by Peking University Press) and several co-edited journal special issues (e.g., *Artificial Empathy*, *International Journal of Social Robotics*, 2015; *What can Synthetic Biology offer to Artificial Intelligence (and vice versa)?*, *BioSystems*, 2016; *Synthetic Biology and Artificial Intelligence: Towards Cross-fertilization*, *Complex Systems*, 2018; *Experimental and Integrative Approaches to Robo-ethics*, *International Journal of Social Robotics*, 2023; *Autopoiesis: Foundations of Life, Cognition, and Emergence of Self/Other*, *BioSystems*, 2023; *Biology in AI. New frontiers in hardware, software and wetware modeling of cognition*, *Artificial Life*, 2023.

Day 2 [October 27]

BENJAMIN LIPP

[Technical University of Denmark] [keynote speaker]

Interfacing the Human/Machine. (Post)Social Theory in an Age of “Intelligent” Technology

Advanced computing techniques challenge the old European dualism between human and technology. They equip machines with capabilities allowing them to act and communicate like humans do. At the same time, these machines achieve this by radically different means, through black-boxed ways of information processing and pattern recognition. Intelligent technology thus seems to be human-like and radically different at the same time. The current hype around generative AI is a testament to that ambivalence: While harbingers whistleblow the arrival of general artificial intelligence, a technology that not only challenges but can destroy humanity, others see these machines as mere “stochastic parrots”, solely ruminating biased datasets they were fed to learn on. Is intelligent technology thus either almost-human or mere machine? This talk will not follow either of these alternatives but rather take this ambivalence seriously as a challenge for (post)social theory to grasp emerging human-machine relations.

Benjamin Lipp is Assistant Professor at the Technical University of Denmark (DTU). He received his doctorate in Science and Technology Studies (STS) from the Technical University of Munich in 2019. Before joining DTU in 2023, he was a Marie Curie Postdoctoral Fellow at Cornell University and the University of Hamburg. In his work, he draws on new materialist and post-social theory to study how

humans and machines interface, particularly in the domain of digital health. Beyond research, Benjamin has been involved in a number of engagement and teaching initiatives to imagine and co-create responsible interfaces between intelligent machines and healthcare.

MICHAEL MORRISON

[University of Oxford] [keynote speaker]

Data doubles and other monsters haunting medical AI

The presence of monsters on medieval maps is commonly believed to indicate spaces where hidden or unknown dangers were thought to lie. Applied in a contemporary context, the idea of “monsters” suggests that the maps of scientific and political progress may also contain hidden problems, challenges, and unresolved questions. In this talk I will use the context of data driven and algorithmic healthcare to discuss some of the “monsters” that might populate this space. In particular I will focus on the AI figure of the “data double” and its monstrous counterpart, the doppelganger, to interrogate some of the hidden assumptions and challenges in the relationship between AI technology and society, with its attendant issues of (public) trust, accountability, privacy, ownership, and control. Lastly, I will reflect on the implications for responsible technology governance of AI in healthcare.

Michael Morrison is Senior Researcher in Social Science with the Centre for Health, Law and Emerging Technologies (HeLEX) and Associate Fellow at the Institute for Science, Innovation and Society at the University of Oxford. His work deals with the dynamics of innovation in biological and medical technologies, where he has worked on a range of topics including human enhancement, biobanking, and regenerative medicine. Michael’s work investigates how potential clinical applications of new technologies are shaped by scientific, regulatory, economic, and cultural factors using detailed empirical analysis and techniques of qualitative and interpretative social science. Michael obtained his Ma and PhD from the Institute for Science and Society University of Nottingham and has worked in the Science and Technology Studies Unit (SATSU) at the University of York and the ESRC Centre for Genomics in Society (Egenis) at the University of Exeter before moving to Oxford in 2012.

**PANEL 1:
ART AND PHILOSOPHY
OF AN ARTIFICIAL LIFE**

Ilaria Fornacciari [chair]

MICHAL ŠIMŮNEK
[FAMU]

The Decisive Moment

Photography has been the prominent modern media technology promising to fulfil the social desire to document and preserve the past. From the mid-19th century until relatively recently, affecting the shutter release button to take a photo was a decisive moment in recording one's life. The gesture of pressing the button has also been crucial for the human-centric conception of photography, which prevailed throughout its history. However, this conception seems to be losing its relevance. As argued by recent accounts of post-photography, operational images and non-human photography, automation and robotisation of image-making processes increasingly obliterate human operators. In building on these accounts, this paper focuses on apparatuses designed to record one's everyday life and operated by sensors, algorithms, and AI. By exploring users' commentaries, promotional messages, manuals, patents, and technical plans for lifelogging cameras and a variety of smart devices (home camera systems, contact lenses, glasses, and phones), the paper aims to address the following questions: How do autonomous cameras decide what is worth recording? How do they promise to affect how we experience everyday life and what we remember and forget?

BARBORA TRNKOVÁ
[Brno University of Technology]

*Autoportrait of the Nonhuman, look of internalized
machine gaze*

The contribution will present the results of work conducted using artistic-research methods, spanning across several interconnected artistic and participatory projects (AI: All Idiots, Darkside Moonwalker, Your Addiction is the Message). It examines the proclaimed overcoming of rationalistic dualities personified in the cyborg metaphor. In doing so, it hints at certain contents that reproduce meta-programs hidden within digital technologies, including those involving AI. It also suggests how media-driven digital thinking obstructs the perception of the other and poses a risk to techno-optimistic solutions inspired by this metaphor. In the spirit of glitch feminism, instances of algorithmic biases are proposed, revealing disruptions within normative hegemony mediated by the results of learning algorithms, to be positively perceived as opportunities for their identification and removal.

JOSHUA D. FAHMY HOOKE
[Memorial University]

*Martin Heidegger's Concept of Understanding (Verstehen):
An Inquiry into Artificial Intelligence*

My primary goal in this paper is to demonstrate the inadequacy of Hubert Dreyfus' use of "understanding" for Artificial Intelligence (AI). My complementary goal is to provide a principled account of Martin Heidegger's concept of "understanding" ("Verstehen"). Disagreement regarding the meaning and validity of Heidegger's concept of "understanding" has been sustained by its resistance to assimilation into a unified reading of his phenomenological project, one encompassing the canonical arguments of "Being and Time". Dreyfus and other verificationists maintain that "understanding" is socially purposive action and skillful embodied coping. This view is unsatisfactory because it ignores the systematic and constitutive analysis of self-understanding ("Seinsverständnis") funda-

mental to Heidegger's ontology. Recent exegetical work replicates this inadequacy and fails to improve discussions on Heidegger's relationship to Artificial Intelligence (AI). To reconcile this oversight, I bridge the gap between Heidegger's concept of "understanding" and "disclosedness" ("Erschlossenheit") (§44 / 256-278). I argue that "understanding" characterizes the fore-theoretical grasp of intelligible beings ("Seiendes", "Seiendheit") and the reflexive pre-ontological structure that prompts the question of self-understanding ("Seinsverständnis"). This result supports Heidegger's phenomenological breakthrough towards a sense of Being ("Sein") as the ground of intelligibility.

CHRISTOPH HUBATSCHKE [University of Vienna]

Improvising with Stuttering Algorithms Critical Perspectives on Humanoid Robots, AI and Contemporary Dance

Take the machine that has a dancer for one of its moving parts: one should not say that the machine cannot make some movement that only man is capable of making, but on the contrary that man is incapable of making this movement except as part of a certain machine. (Deleuze and Parnet 2007, 104) In this talk I would like to present some results of a larger arts-based research project I was involved in as part of the transdisciplinary research group H.A.U.S. (Humanoids in Architectural and Urban Spaces). In the project DANCR we tried to develop a new AI that enables dancers to improvise with humanoid robots. Contemporary improvisational dance is the main focus of the artistic practice. The AI developed in this project is intentionally developed completely different from conventional "dance AIs", as it is not based on Big Data, but works with "radical individualization" and "Small Data". Based on the experiences of this project, the paper will discuss aspects of a philosophy of technology that not only criticize body normalization, machine readability, and classical AIs, but, building on the work of Haraway, Deleuze/Guattari, and Chude-Sokei, ask about alternative ways of developing and training AIs. Discussing these performances through

a perspective of political and technological entanglements will not only help to develop an alternative view of human-robot-AI interaction but maybe help to criticise a certain problematic understanding of the human itself. In doing so, the concept of "Stuttering Algorithms" will be introduced as a critical philosophical concept.

PANEL 2: **EMOTION MACHINES** Eva Theunissen [chair]

ZEENIA BHAT [Mahindra University]

Robotic Error: An analysis of a Robot's Incapability to Lie

The only thing that now stands between an intelligent machine to come closest to a human is the presence of emotions. This investigation has led computer scientists to develop a deeper understanding of what it is like to be a human. However, the possibility of finding a way to answer questions about the essence of being a human, the exploration of what it is like to not be a human or in other words what it is like to be a robot can also be valuable. The paper intends to analyse non-human factors in a robot through a human-robot interaction in science fiction such as Ian McEwan's *Machines Like Us*, which puts forward the moral and ethical implications of a robot, who cannot lie, lying being a human quality reflecting on a human's emotional side. By focusing on lying as a dimension of the unconscious, where the inevitable "lack" (Lacan) of a human is not comprehended by the robot in the novel, the paper proposes to examine differences between robots and humans explaining a robot's emotional incapacity or inability to simply lie.

LAURA CASTILLO BEL

[Universidad Complutense de Madrid]

The cognitive study of empathy in the reception of narrative fiction. Fiction as a mode of emotion training for AI

The intertwining of emotion and cognitive approaches in literary theory has been shown to yield very interesting results. Thus, theorists such as Kuzmičová (2014), Patoine (2019) or Miall (2011) have studied the cognitive processes that humans go through when experiencing emotions such as fear or empathy when confronted with fiction. This paper will offer as an example of the application of this theory an analysis of the story “La respiración cavernaria” by Samanta Schweblin, a narrative about Alzheimer’s disease. This study has two main objectives: to discern the narrative strategies that fiction offers to generate empathy in the reader and to study the cognitive processes that the reader goes through in order to experience aesthetic empathy. All these objectives will be aimed at answering the hypothesis that inaugurates this research, i.e., is there a way of narrating the illness that helps to cognitively generate empathy in the reader? This analysis will lead to results, which are intended to be presented as starting points for the construction of an AI capable of recognizing and generating emotions similar to human beings. The applications of AI to the mental health sector are endless and this is just a first step towards that scenario.

GIOVANNI SALVAGNINI ZANAZZO

[Università degli Studi di Padova]

“I feel” or “I think”? What We Expect from AI’s Self-Consciousness

This communication wants to concern, from a humanistic point of view, the problem of AI consciousness in the following terms: what is it, for us now, human consciousness? It proposes that our contemporaneity has promoted a veritable and unanimous change of paradigm: from the Cartesian “I think so I am” to a hypothetic “I feel so I am”. To recognize identity and consciousness in a living being, emotion is actually the more accredited way. Finally, what we expect from machines

to certify their consciousness is not a so much elaborated thought, on which we could always maintain a sort of mistrust. We expect from them the expression of an emotion capable of convincing us, above suspects of gaming. This poses some open problems concerning, for example, legitimacy of mental activity without emotion: we may not hesitate to refuse the Turing’s test to someone that, as in Camus’ *The Stranger*, talks without emotion about his mother’s death. Moreover, we can pose the problem of individuality’s survival: as it may be contained in ideas rather than in emotions, which are a more basic field where no differentiation is possible, due to the conviction that everyone has its own sufferance, without a hierarchy.

HANA HOLUBEC

[York University, Toronto]

Laboratory Laugh: The Production of Laughter in the ERICA Project

Alongside technical advances in AI and robotics, the increasingly complex emotional and affective capacities of these technologies are radically impacting and altering the nature of relationships between humans and machines (Coeckelbergh, 2022; Guzman, 2020; Šabanović, 2014; Suchman, 2011). One means of exploring this relationship is through the phenomenon of humour and laughter in interactions. Within the realm of affective technologies, emerging work in computational humour and computational laughter offers opportunities to attend to the ways that humour and laughter affect bodies, both human and technological (Becker-Asano et al., 2011; Griffin et al., 2015; Rayz, 2017). Though research and literature on human laughter offers a rich assessment of its historical, cultural, and political dimensions (Amir, 2021; Giamario, 2023; Henefeld, 2021; Marvin, 2022), such nuance is largely missing in computational humour/laughter research. This article aims to extend laughter past the human by analyzing the experience of shared laughter between humans and non-human technologies, exemplified here through the case study of a human-like android named ERICA capable of shared laughter in Human-Robot Interaction (Inoue et al., 2022). I analyze

how researchers, developers, and users of laughter technologies understand laughter, and the broader implications that laughter programming has on human and technological bodies. I argue that the computational programming of ERI-CA's laughter paradoxically reifies historical and political ways of civilizing human laughter (including along gendered and classed lines) on the one hand, while flattening the dynamic nuances of laughter (such as feminist laughter) on the other.

TOMÁŠ HŘÍBEK

[Centrum Karla Čapka, AV ČR] [keynote speaker]

Imaginary and Real Robots: from the R.U.R. to Nanorobots

Tomáš Hříbek is a head of the Department of Applied Philosophy and Ethics at the Czech Academy of Sciences' Institute of Philosophy. He has worked on the philosophy of mind and consciousness and also select themes in bioethics and the philosophy of art. In recent years, he has expanded his interests to include the ethics of emerging technologies. In this regard, he helped found the interdisciplinary Karel Capek Center for Values in Science and Technology (CEVAST) and participates in the Center for Environmental and Technology Ethics - Prague (CETE-P).

Day 3 [October 28]

ROBOTS FOR KIDS

MICHAELA JIROUT KOŠOVÁ

[Centrum Karla Čapka, AV ČR]

Children vs. AI: Robots are "Soulless Machines"

Recent literature in experimental philosophy showed us that people are in general willing to ascribe basic sense perception and various cognitive states to robots, but they are reluctant to acknowledge that they are capable of feeling emotions or pain. Some authors suggest that the right interpretation of these tendencies has to do with the fact that people naturally distinguish between agency and personhood, while agency does not have to automatically imply personhood. Our own experimental philosophy research explores these intuitions in children and teenagers. The results are in accord with the existing studies and reveal yet another aspect of the problem: the relationship between our intuitions about the moral status of robots and the folk concept of "soul". By addressing the existing literature and our own research on folk dualism and personal identity in adults, we will be able to prepare the necessary theoretical background needed for interpretation of the studies with young respondents. Certain kind of implicit "dualism" in combination with developing cognition might lead children and teenagers to a very specific view of what kind of entities robots are – intelligent soulless machines.

Michaela Jirout Košová earned her MA in Philosophy at the Faculty of Arts, Charles University, where she focused mainly on philosophy of consciousness. She graduated with a PhD degree in philosophy at the Faculty of Science, Charles University, with doctoral thesis “Folk Dualism and the Two Conceptual Realms”. She is currently working on topics in philosophy of mind and experimental philosophy, continuing to focus on folk dualistic beliefs and intuitions about future technologies. She is a member of The Karel Čapek Center for Values in Science and Technology.

PANEL 3: HUMAN FACTOR

Eva Theunissen [chair]

LIBUŠE HANNAH VEPŘEK [University of Tuebingen]

Unraveling the “human-in-the-loop” paradigm: From imagination and materialization to negotiation

The “human-in-the-loop” paradigm, widely used in computer science fields like machine learning and human-computer interaction, aims to integrate humans into technological systems to enhance AI capabilities (Rueckert and Riedl 2022). However, the specifics of the image of the human, the envisioned loop, and their interrelation often lack clarity and require closer examination in concrete instances and related practices.

This paper underscores the necessity of thorough analyses of concrete human-in-the-loop cases and how their imagination and materialization are connected to better comprehending human-AI systems and their impact on our everyday lives.

By investigating the human-in-the-loop imaginaries (Jasanoff and Kim 2009; 2015) and implementations in human computation, it reveals how these concepts materialize in practical applications and scientific infrastructuring (Niewöhner 2015). Drawing from three years of ethnographic and collaborative research at the Human Computation Institute in Ithaca, NY, it highlights how diverse actors like participants in human computation-based citizen science games, typically excluded from

initial design, negotiate and reshape the human-in-the-loop in everyday practices.

I employ a multiperspectival analysis of human-in-the-loop imaginations and materializations to demonstrate how cultural anthropology and STS contribute to expanding the loop in critical and constructive ways to a more comprehensive understanding of the “human in the loop”.

KYLE THOMPSON [Harvey Mudd College]

Do People Have Politics? A Winnerian Critique of AI Artifacts

In Langdon Winner’s 1980 article “Do Artifacts Have Politics?”, he offers a thoughtful challenge to the notion, commonly held among humanists and social scientists, that technologies are politically and ethically inert in themselves, that only people have politics. This notion, according to Winner’s critique, is itself a corrective to an overemphasis on the technical features of artifacts at the exclusion of the social and political situations in which the artifacts are created and employed. In this presentation, I will suggest that just as Winner was right to highlight the ethical and political features literally embedded in artifacts in a time when they were being erased, we would also be right to re-emphasize, in this moment, human agency and social structures when engaging with AI systems in particular. This project, then, is Winnerian in offering a corrective for a particular strand of popular discourse surrounding the relationship between politics and artifacts, this time in defense of AI technologies as more inert than they have been recently treated. Beyond the now trite critique that machine learning is not “learning” as such, I will emphasize that the total AI and ethics landscape is saturated with concepts that overly imbue technologies with political properties.

DUSTIN BREITLING

[Masaryk University]

Xenopatterning Generator

Building upon the threads of Landscape Architecture, Interplanetary Infrastructure, and Deep Learning, this presentation aims to survey the emergence of an ever-evolving and mutable constellation known as Collaborative Intelligence. Here, we shed light on conceptions of design, particularly landscape design, undertakes an imaginative transformation and alignment with gestures of ‘human withdrawal.’ Thus, we can chart out how human withdrawal itself transforms into a design principle, inviting synthetic intelligences, specifically Deep Learning Models, Robotics, and Unmanned Aerial Vehicles, to become active forces in reimagining ecological relations and environmental management.

Focusing on Reinforcement Learning, we will examine the nature of Luciana Parisi’s Xenopatterning, where machine models serve as vehicles for counterfactual hypothesis generation, exploring and unlocking search spaces of novelty and what Anna Tsing asserts as “encounters.” Additionally, we will explore the work of Bradley Cantrell, Zihao Zhang, and Tega Brain, who endeavor to cultivate a form of “wildness” that challenges the notion of a strict division between “uncontaminated” wildness and machines. Instead, we aim to conceptualize their fusion and, more importantly, explore the creative synergies that arise from the integration of reinforcement learning, robotics, and sensor networks in regenerating landscapes, oceanic ecosystems, and speculative data science fiction.

HUGO F. IDARRAGA

[Duke University]

Computation of humans: limitations from an Amerindian perspective

This proposal explores the convergence of Amerindian creation myths and machine learning paradigms, particularly

through the lens of perspectivism. Amerindian myths suggest a common origin for all entities, challenging conventional notions of differentiation and individuality. Eduardo Viveiros de Castro’s perspectivism proposes that these mythical times represent a state of pure potentiality, where all actants are initially humans. This concept challenges the prevalent view of beings as complex, discrete, rational machines, a perspective rooted in cybernetics and artificial intelligence theories.

By drawing parallels between Amerindian mythologies and machine learning models, the proposal contends that perspectivism challenges the constrained definition of actants and matter imposed by the latter. Machine learning classifies individuals based on binary representations linked to semantic labels, mirroring a mythological time before algorithmic entities’ differentiation. This idea is crucial to the global applicability of machine learning, underpinning the belief that everything in human is computable.

Examining Amerindian creation myths alongside machine learning’s ambition to classify the world raises questions about how humans can be computable and its limitations. This inquiry exposes epistemological biases that reinforce colonialism and marginalize non-hegemonic knowledge about the ontology of the world. Ultimately, this proposal seeks to foster a dialogue between these diverse perspectives.

PANEL 4: DESIGN THINKING AI

Ilaria Fornacciari [chair]

PAVEL DOBOŠ

(co-authors: Veronika Kotýnková, Robert Osman, Hana Porkertová)
[Masaryk University]

Movement of people with visual impairments: the influence of technologies

This contribution is based on critical media and communication geography and shows how the use of media technologies shapes movement through urban space for people with visual impairments. It adopts non-representational theory perspective that is not uncommon for media geographies, as well as disability geographies. Ideas presented here are based on semi-structured and go-along interviews with people with visual impairments. They present that the preparation of itineraries of routes on a computer (usually online) and the usage of smartphone GPS spatial navigation applications have crucial importance for movement through urban space. The first of these two, although itself a representation of space, is more in line with the non-representational movement advance of the body with visual impairments, with its movement-space. The second of these is based on the representation of space, which is technologically captured at each point in time in its synchronous whole, not in a route-like becoming. Spatial navigation, due to its origin in technological ocularcentrism, does not operate with the occurrence of the route step by step, event by event, with the construction of the haptic living space fragment by fragment, as the route itinerary refers to. This can bring forth affects that reproduce ableism.

YUNQING HAN

[Claremont McKenna College]

Woman, Man, and Maybe More All at Once: A New Way of Imagining the Embodiments of “Gender-Neutral” Robots

As we become increasingly reliant on robots, the concern for them sustaining societal injustice becomes prominent. Garcha et al. (2023) evidenced that our concerns are well-founded—robots’ professions and perceived embodied gender activate binary gender stereotypes that stress humans out. Current suggested solutions against activating or sustaining gender stereotypes are commonly: (1) design robots with no feminine or masculine traits or (2) purposefully mismatch stereotypical robot appearance and profession (e.g., use feminine construction robots).

Both solutions have flaws. With (1), we may still see certain robots as gendered – Roesler et al. (2023) demonstrated that a high degree of anthropomorphism invoked a male robot bias. With (2), robots contradict gender roles but are acquiescent to the binarity of genders and the idea that genders entail fundamental attributes.

I argue instead that we should blur the lines of gender in robots by having a mix of feminine and masculine traits. For example, a robot would embody stereotypically feminine traits but also possess salient masculine traits (e.g., have makeup and a large jawline). I suggest that more than challenging gender roles, these robots would question boundaries of binary genders and how we perceive genders, thereby positively reshaping how we perceive others and ourselves.

FINTAN MALLORY

[University of Oslo]

Fictionalism about Social Machines

Machines are joining our linguistic communities and their ‘testimony’ is entering into human channels of knowledge production. According to the dominant traditions within philosophy and linguistics, this shouldn’t be possible as machines (in

this case, generative language models), shouldn't be capable of producing meaningful sentences due to their lack of communicative intentions or grasp of social conventions. Some philosophers have responded to this problem by arguing that social machines are a kind of fictional character and that we are increasingly being drawn, willingly or not, into games of make-believe that involve them (Sweeney, 2023, Mallory, 2023, Osler, 2022). According to this fictionalist view, chatbots and other social robots produce fictionally meaningful sentences that are literally meaningless. In this talk, I will give an overview of the fictionalist approach to linguistic machines and illustrate some of the phenomena it can explain. In particular, I will defend an account of fiction grounded in Kendall Walton's work on aesthetics (Walton, 1993). I will then use this to draw the outlines of and propose a methodology for a wider research project of making explicit the implicit rules of these games of make-believe. If this theory is correct and, then to live in modern society, we must engage in varieties of pretense. The framework proposed may give us the tools to understand this.

SHORT BRENDEN

[Ohio University]

Art Incarnate: How Lack of a Body Affects AI Art

The recent and rapid expansion of AI driven technologies has only begun upsetting not only the job market but also our conception of what it means to be an author. One area that AI has especially upset is the art world, and although AI art is continually improving, there are still key differences between AI generated and human-made art. In this paper, I argue that one of these key differences is what Merleau-Ponty calls the "carnal formula" in his essay "Eye and Mind" – the deeply embodied sense that we have of the things we interact with. I argue that AI programs lack this carnal formula since they do not possess bodies like we do, and their "experience" of the world is thus limited to the abstracted data of latent space. No matter how advanced AI art gets, unless AI programs begin to possess a carnal formula of the objects they

depict, they will be necessarily locked in a different world: the world of latent space.

PETR ŠPECIÁN

[Charles University]

Reimagining Institutions through Generative AI

As AI systems grow more advanced, new possibilities emerge to utilize their generative capabilities to reimagine our institutions. It is becoming possible to integrate technology with the social sciences to develop AI-powered capabilities for institutional innovation. My talk will focus on the intriguing possibility of constructing a collaborative digital sandbox where researchers could rapidly prototype and simulate the impacts of new institutional architectures. This virtual institutional laboratory—or playground—would provide a space to experiment with novel designs optimized to answer the 21st century's challenges. Interdisciplinary teams of social scientists, computer scientists, and government innovators would co-create this platform and populate it with imaginative institutional alternatives to be tested and refined "in silico" before their real-world deployment. Thus, when carefully directed, AI's generative power could help design new forms of social organization and governance fit for the digital age.

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How GenAI Increases Human Creativity

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