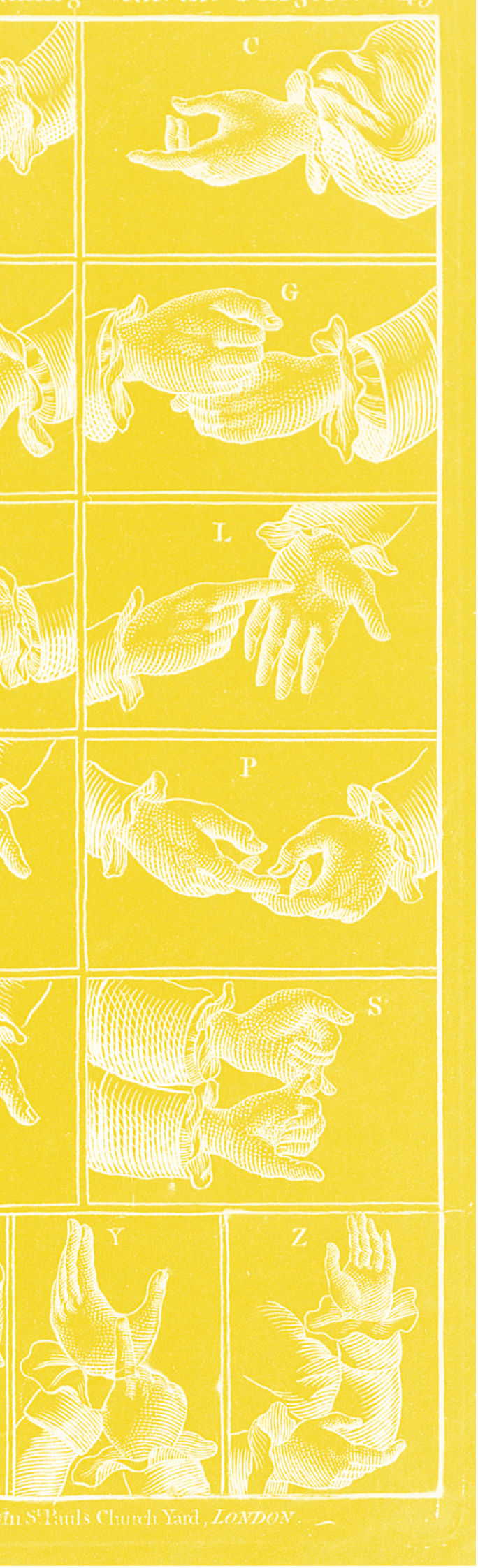

D4.1 Communicating human-centric AI: overview of MUHAI communication activities

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MUHAI

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D4.1 - Communicating human-centric AI: overview of MUHAI communication activities

Contents

Foreword

The following chapters present the activities coordinated by the Venice International University (VIU) and executed by the MUHAI consortium. VIU built on years of established practice in science communication, developed through training programmes, collaborations, and projects—most notably QUEST and COALESCE. VIU ensured seamless implementation by subcontracting graphic design to a professional agency, social media management to a dedicated specialist, and web management to a webmaster. This structure enabled VIU to focus on coordinating these efforts, upholding the principles of science communication, and acting as a knowledge broker between AI researchers and professionals who could adapt complex content for wider audiences.

Throughout the project, MUHAI took the opportunity to study the public debates on AI and explore how researchers could contribute meaningfully to them. The insights gained from this work are outlined in the introduction and are detailed in Vol.3 of the MUHAI book.
AI communication unfolds within two distinct narratives: one shaped by experts and another driven by media enthusiasm. The rise of generative AI tools, such as ChatGPT, has heightened public interest, evoking both excitement and concern.

Tech enthusiasts and businesses often present an overly optimistic vision of AI's capabilities, portraying it as a revolutionary force. Conversely, artists, creative professionals, and younger generations frequently express scepticism, fearing job displacement and ethical risks. Meanwhile, the scientific community struggles to convey nuance, as corporate narratives and alarmist media reports often overshadow their voices.

A key challenge lies in bridging the gap between exaggerated promises and legitimate concerns, ensuring that public discourse remains evidence-based and balanced. MUHAI recognised that AI researchers have a crucial role in demystifying AI, highlighting its limitations and ethical considerations while countering misinformation. The project identified several key strategies for building trustworthy AI communication:

- Transparency: Clearly explaining how AI works, its strengths and limitations, and its implications for human labour.
- Ethical responsibility: Addressing concerns such as bias, privacy, and misinformation while actively debunking myths.
- Balanced messaging: Avoiding both hype and fearmongering, ensuring that policymakers and the public have realistic expectations.
- Collaborative storytelling: Engaging with communicators and journalists to create accessible narratives about AI research.

Despite these efforts, researchers alone cannot be responsible for public communication. Given their demanding workloads, the study suggests that integrating communication professionals within research teams would enhance outreach and ensure effective knowledge transfer. Effective AI communication requires a blend of traditional and innovative methods to engage diverse audiences. MUHAI identified several successful approaches:

- Humanising AI: Presenting AI as an assistive tool rather than a replacement, making it more relatable.
- Social media and video content: Short, focused videos and interactive formats proved particularly effective in reaching younger audiences.
- Public engagement through the arts: Collaborations with artists, exhibitions, and storytelling broadened societal discussions on AI's impact.
- University-led initiatives: Educational programmes and ethics courses reinforced responsible AI use among students.

MUHAI's Impact on Researchers' Awareness
In a series of interviews, the impact of MUHAI's communication work on AI researchers was explored. It emerged that for early-career researchers, MUHAI provided an eye-opening experience, demonstrating the significance of communication in shaping public perceptions of AI. Senior researchers, already familiar with these dynamics, reported only minor shifts in their perspectives.

Key takeaways from the project included:

- AI as a complement, not a replacement: MUHAI reinforced the need to shift AI narratives away from fear and towards coexistence with human intelligence.
- Rising public interest in AI: The emergence of Large Language Models (LLMs) increased demand for expert insights, encouraging researchers to engage more actively in public discussions.
- Gaps in EU communication metrics: Researchers expressed frustration that EU project metrics often fail to capture the true impact of communication efforts.

While social media engagement remained a time-consuming challenge, collaborations with artists and public exhibitions emerged as alternative and effective methods for AI outreach.

The Role of Communicators in Supporting AI Research
MUHAI underscored the importance of professional communicators in translating complex AI concepts into accessible narratives. Researchers highlighted the value of communicators in:

- Framing discussions and guiding outreach efforts.
- Refining scientific language to suit different audiences.
- Developing engaging content, including videos, blogs, and social media campaigns.

Corporate environments, such as SONY (project partner), demonstrated the advantages of integrating communicators directly within research teams. This approach allowed researchers to focus on their work while ensuring effective dissemination.

However, the project also identified a knowledge gap, and hence a challenge to overcome: many communicators lacked expertise in AI's technical aspects. Close collaboration with researchers is therefore essential to avoid oversimplification and ensure accurate representation. The following chapters will examine MUHAI's communication activities (T4.1) in relation to the project's initial objectives. This deliverable is the twin of one dedicated to Dissemination and Ethics activities (T4.2 and T4.3).

Chapter 1: Developing a Visual Identity

The MUHAI project needed a distinctive visual identity to stand out in a crowded AI landscape. The agency Studio +fortuna took on this challenge. Through conversations with AI researcxhers involved in MUHAI, the Studio developed a project image to interpret the human-centered concept of AI.

By Paola Fortuna, Studio +fortuna

The word *scientific* often attracts *curiosity*, while artificial can evoke scepticism, conjuring a world where machines dominate humans. In MUHAI, we aimed to shift this perception, engaging with artificial in a new way.

We approached this challenge visually, inspired by the project's core concept: Breaking through the barrier of meaning (Luc Steels, 2020). The brain processes images before words, making visual impact crucial in communicating ideas. To activate this, we explored what lies beneath the surface, distilling concepts to their primary essence.

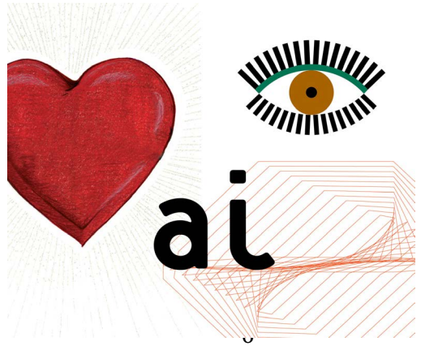
Key terms emerged from MUHAI's research: human-centric, meaning, understanding, AI, language, research, process, dynamic memory, storytelling, creativity, relationship, abstraction, and trustworthiness. These words guided us away from dystopian sci-fi imagery towards a vision of AI as a tool for enhancing human and social well-being.

On the internet, AI is often visually represented in cold, blue tones. To break through the barrier of meaning, we introduced warm, inviting colours to create a sense of comfort and accessibility. We blended shades seamlessly, removing rigid boundaries between colours.

The project's acronym—MUHAI—stands for Meaning, Understanding, Human-centric, Artificial, and Intelligence. At its centre lies H, symbolising the human element. This centrality shaped the visual identity: the H moves independently, shifting the balance of the word, pulsating like a heart, conveying passion and empathy. It also blinks, evoking an observant eye that sees AI in a new light.

To capture this sense of movement even in static visuals, we selected a moment within the motion that suggests fluidity. We further softened the typography, rounding its edges to eliminate rigidity.

To achieve this, we had to move beyond surface aesthetics, ensuring MUHAI's visual identity reflected its mission: placing humans at the centre of AI development and communication. - Adapted from the MUHAI blog entry: *MUHAI Visual Identity* of 31.03.2021.



Chapter 2: Website Storytelling

The MUHAI website -www.muhai.org- serves as the central communication platform for the project, continuously updated throughout its lifecycle. Designed to be mobile-friendly, it acts as the primary repository for all project-related information.

Following accessibility updates, the website is structured into several key sections:

Home
As the project's landing page, the Home section provides an overview of MUHAI, guiding visitors through its main themes and content. A top menu ensures easy navigation, while a visually distinctive banner reflects the project's identity. Scrolling down, users encounter the latest blog posts, an introductory project video, details of upcoming and past events, and previews of video interviews explaining the concept of human-centric AI.

Blog
The MUHAI blog showcases the project's research, tracking its progress and outcomes, including academic publications. Updated regularly, it featured 15 blog posts during the reporting period. Topics and publication schedules were coordinated by the Communication Team in collaboration with project partners to align with ongoing activities and outputs.

What's New
This section is divided into two pages:

- News & Events: Lists both upcoming and past events where MUHAI is represented by consortium members or directly organised by project partners.
- Newsletter & Press: Provides access to the newsletter archive and links to articles featuring MUHAI in the press.

exploreAI
Designed to make AI more accessible and engaging, this section includes several thematic subsections:

- #wordofthemonth: Explains how commonly used words take on specific meanings in the context of human-centric AI. Each month, a new word is introduced, accompanied by a dedicated design, and shared across MUHAI's social media channels.
- #glossarAI: A searchable, alphabetically organised collection of #wordofthemonth entries for easy reference.
- #futurAI: Presents researchers' expectations for the future of AI, visually represented through modified versions of Mantegna's tarot cards.
- #trAIning: A repository for tutorials and educational materials.

Output
Previously titled Micro-Projects, this section features the project's main deliverables and outcomes, serving as a web repository for all official project documents. The outputs range from the MUHAI volumes, the final events, specific exhibitions, the main

demo and libraries produced by the project. For instance the MUHAI Canvas, the Social Inequality Observatory, the Social Science Dashoboard Specification or the Recipe Execution Benchmark.

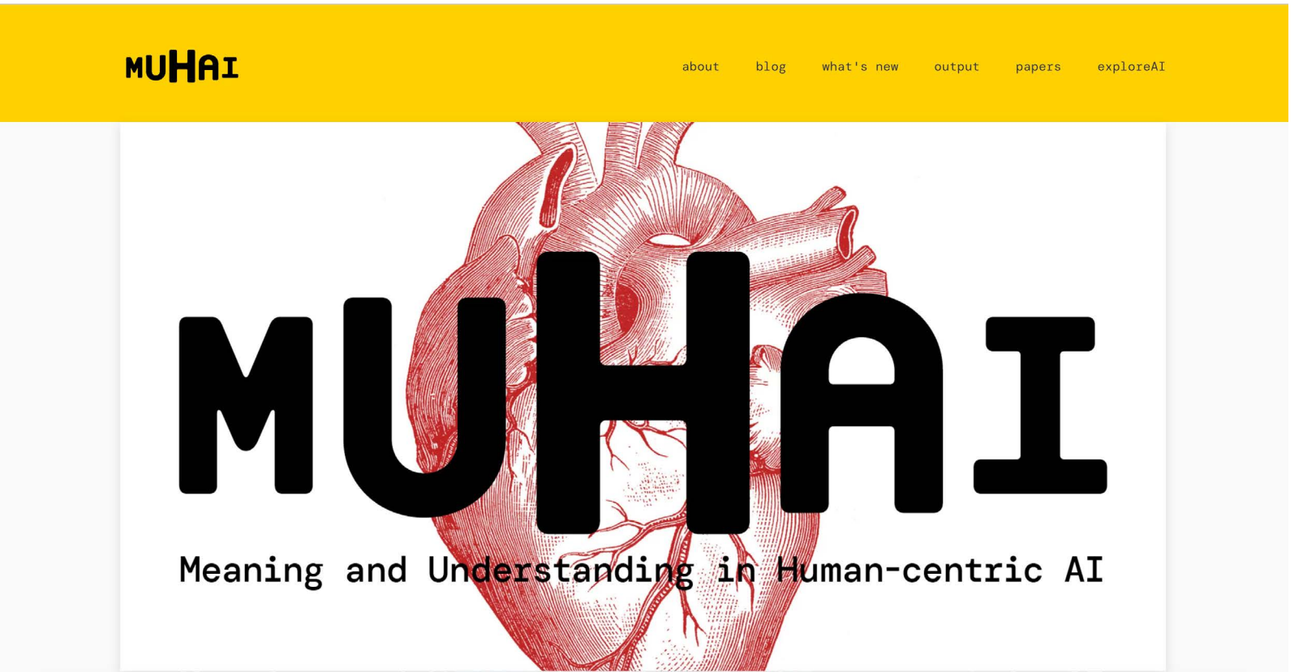
Papers
A dedicated repository for MUHAI's academic publications, this section includes full references in BibTeX format along with links to downloadable PDFs.

About
This section presents the project's vision and goals and is divided into two main subsections:

- Project: Includes a short introduction, an overview video, partner logos, and video interviews produced during the project. The Research Units subsection provides contact details and photographs of each partner's Principal Investigator, along with links to their affiliated institutions.
- People: Features the MUHAI People campaign, showcasing team members' biographies alongside their portraits.

Social Media and Engagement
The website prominently displays links to MUHAI's four social media channels—Instagram, Facebook, Twitter, and LinkedIn—along with VIU's YouTube channel, where the video interviews are hosted. Additionally, a newsletter subscription form is embedded in the footer of each page, ensuring ongoing engagement with visitors.

Launched in March 2021, the MUHAI website was managed by VIU, with a webmaster and front editor overseeing its content. The site will continue to be maintained beyond the project's conclusion, preserving its role as a key resource for human-centric AI research.



Chapter 3: Digital Campaigns

The project's social media presence extended across LinkedIn, X (formerly Twitter), Facebook, and Instagram, serving as a key tool for promoting MUHAI's events, research outputs, and publications within the scientific community. Each platform attracted between 200 and 300 followers—figures consistent with other EU-funded projects in similar fields. To make technical aspects of AI more accessible, and hence engage also the community of non-experts a series of dedicated digital campaigns were developed, each designed to engage diverse audiences and highlight the human-centric approach of MUHAI.

3.1 People and Videos

A project centred on human-centric AI could only do justice to its mission by placing people at the heart of its storytelling. Rather than focusing solely on institutions, MUHAI dedicated an entire section of its website and social media strategy to the individuals behind the research. The MUHAI People campaign was designed to showcase the team in a direct and relatable way.

A professional photoshoot captured the portraits of 27 team members—22 researchers and 5 staff members—portraying them in warm, close-up images that broke away from the stereotypical image of AI as a purely technical, impersonal field. The campaign visually reinforced the project's core message: AI is not just about algorithms and machines but about the people designing, developing, and understanding it. Many of the featured researchers were young, and a significant proportion were women, underlining MUHAI's commitment to inclusivity in AI. More than just a visual showcase, this campaign sought to foster a sense of community and invite the public to see themselves as part of the future of AI.

The MUHAI People campaign was officially launched on 31 March 2022 with the slogan Meet the Humans in MUHAI, and has been featured prominently on MUHAI's social media channels. It also serves as a networking tool, introducing young researchers in the AI field to the broader scientific community, potentially opening career opportunities. Alongside this, a series of video interviews was produced, offering team members a platform to share their views on AI and its future development. Particular attention was given to amplifying the voices of young researchers and women in science, providing them with a space to express their perspectives and aspirations.

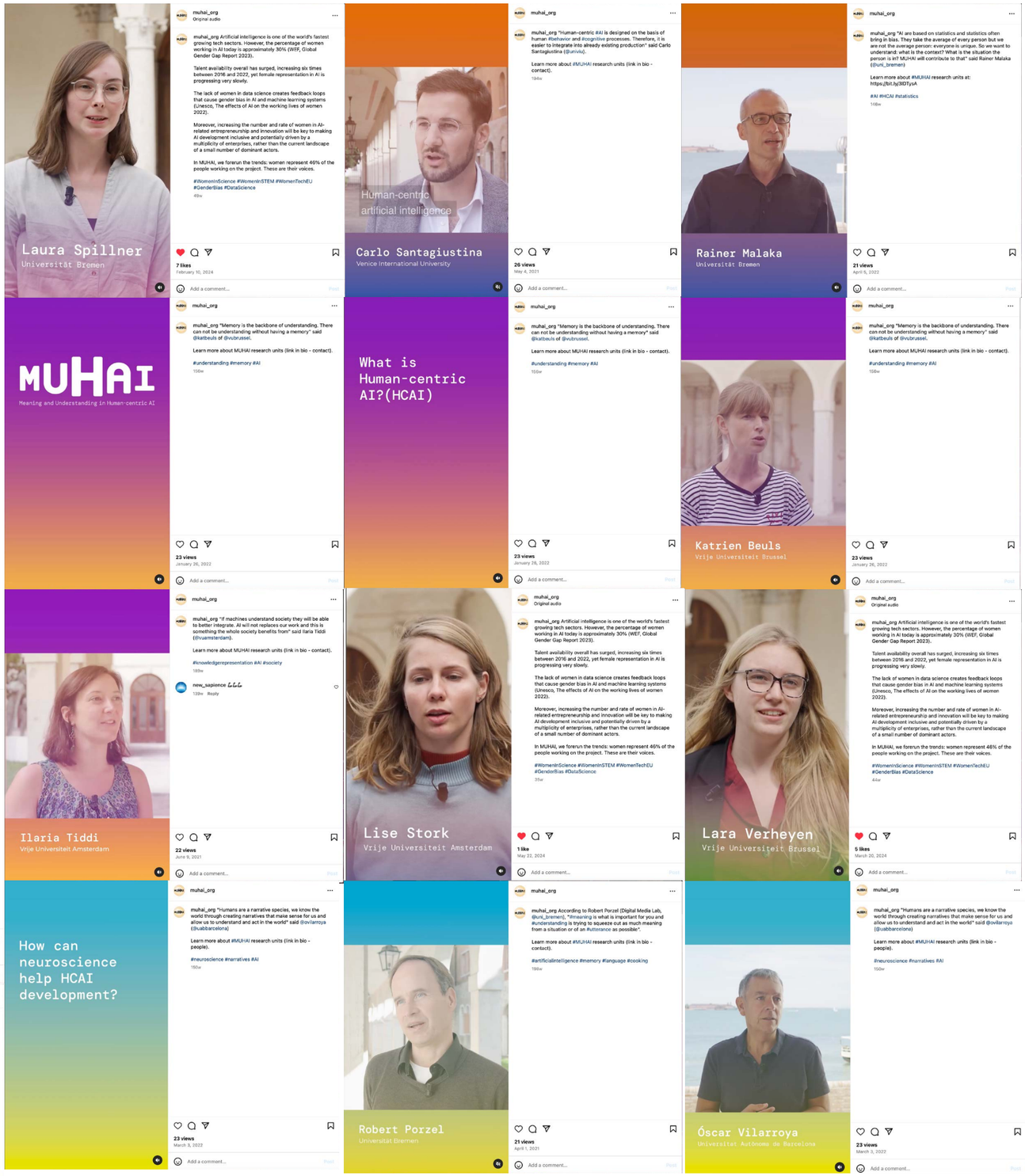
A broader video campaign had been in progress since the project's inception, beginning with the Kick-Off Meeting (KoM) in Venice in October 2020. Given the rare opportunity of an in-person gathering during the COVID-19 pandemic, MUHAI took advantage of the occasion by commissioning a professional video production team to capture footage of the event.

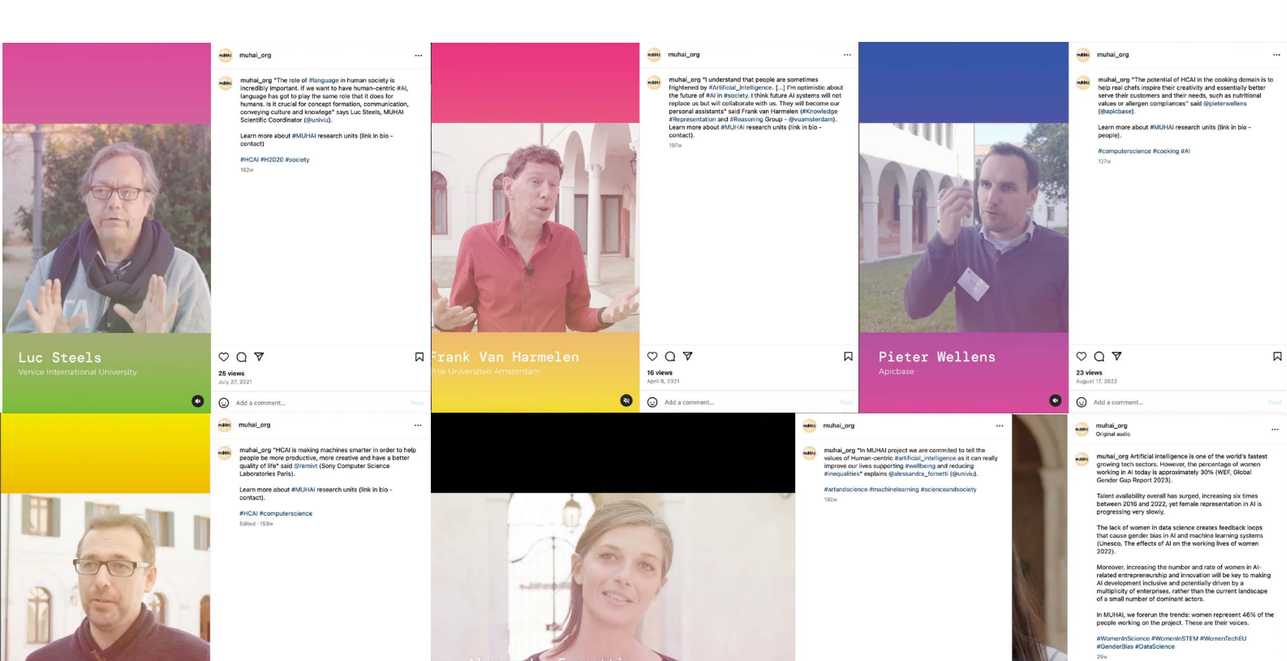
In addition to the introductory video, 16 in-depth interviews with researchers from different MUHAI partner institutions were recorded. These interviews were specifically designed to communicate key aspects of human-centric AI in simple, non-technical language, making complex topics accessible to the general public. Researchers explored AI's applications in everyday life, the culinary domain, and social equity, aiming to demystify the field and highlight its relevance. By adopting a storytelling approach rather than a purely academic one, the videos provided an engaging way for non-experts to connect with MUHAI's research themes.

MUHAI People Campaign

Artificial Intelligence is often perceived as an abstract and impersonal concept, yet it is, at its core, a creation of human ingenuity. For this reason, it was essential to highlight the individuals who research and develop it. The campaign aimed to foster a more transparent and approachable connection with audiences by showcasing the researchers working at MUHAI.

A dedicated page on the website was created to feature these researchers, complete with their photographs and concise biographical profiles. Additionally, informal interviews were conducted in a shared setting, focusing on researchers—particularly early-career professionals—to explore their perspectives on the current state of AI research and its future trajectory.





Université de Namur (UNamur)

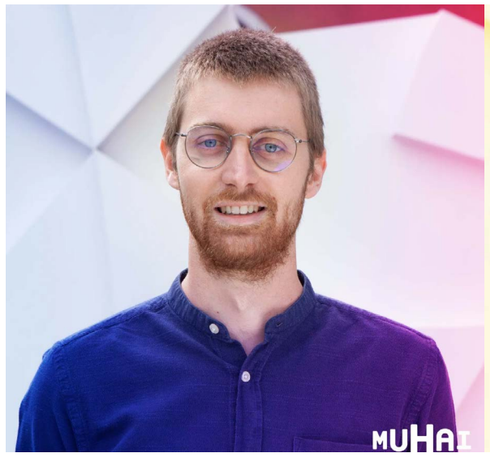
Katrien Beuls

With a PhD in computer science and a background in linguistics and AI, I investigate how intelligent systems can be built that exhibit the same robust, flexible, and adaptive linguistic capacities as us, humans. I build MUHAI's cookingbot. Outdoor sports are my outlet.

SONY CSL Paris (CSL)

Ines Blin

With a background in mathematics, computer science and NLP, I have recently been focusing on semantic technologies. In MUHAI, I want to build narrative structures starting from knowledge graphs. Besides academics, I am fond of running and expanding my cultural knowledge.



Vrije Universiteit Brussel (VUB)

Jens Nevens

I studied Computer Science - AI in Brussels. During my studies, I discovered about robots with human-like communication systems and it blew my mind. In my PhD research, I investigate how to advance their language capabilities. Iceland is my all-time favourite destination.

University of Bremen (UHB)

Mihai Pomarlan

I studied robotics in Romania and Germany, initially with a focus on sensor fusion and motion planning, then switched to cognitive robotics in the past years. My interests now are in how an artificial agent might understand a physical situation: what can happen and why.

Venice International University (VIU)

Susanna Cappello

I am MUHAI's Communications Assistant. I hold a BA and MA in International Relations and lived abroad in Europe and North America. I have a passion for exploring all things related to arts, foreign languages, and culture. Cats are my spirit animal.

Venice International University (VIU)

Alessandra Fornetti

With a humanities background, I have been working for two decades as International Relations and Communications manager. Sustainability is my field of reference since ever, communication of research my daily #dare&care. I am MUHAI's Dissemination leader. Screensaver is my buzzword.

SONY CSL Paris (CSL)

Martina Galletti

With a background in Artificial Intelligence and Linguistics, my research interests are centered around Multilingual NLP, Learning Technologies and Human-Computer Interaction. In MUHAI, I want to extract semantic relations from text. Apart research, I enjoy scuba-diving and photography.

Vrije Universiteit Amsterdam (VUA)

Nikos Kondylidis

My background is in computer science and artificial intelligence. I am currently doing my Ph.D. in which I study how agents can understand each other by developing their own language. I like socializing and learning about different cultures. Philosophy is my addiction.

University of Bremen (UHB)

Rainer Malaka

I am professor for Digital Media at the University of Bremen. My resarch intrests cover AI, Human Computer Interaction and Entertainment Computing.

Venice International University (VIU)

Ilda Mannino

I am an Environmental Scientist working on sustainable development issues from different perspectives, that go from economic and political aspects to citizens' engagement. Within MUHAI I am supporting the communication and dissemination team.

Venice International University (VIU)

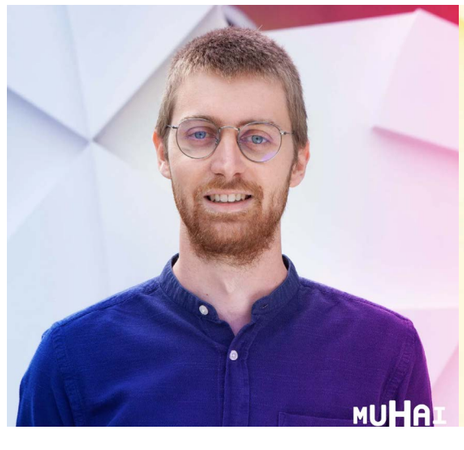
Davide Michielin

I studied Biology in Padua, Trieste and Vienna but I have always loved writing. So I became a science writer! Nowadays I coordinate several editorial projects for Italian magazines and I am MUHAI social media manager. My house is cram-full of LEGO.

Venice International University (VIU)

Anna Morbiato

My BA and MA in Chinese-English interpretation and my passion for linguistics made me travel a lot, with study and research periods in China, Australia, and Europe. I got a Ph.D. in Linguistics and in Asian Studies; for MUHAI, I do research in cognitive semantics and pragmatics.



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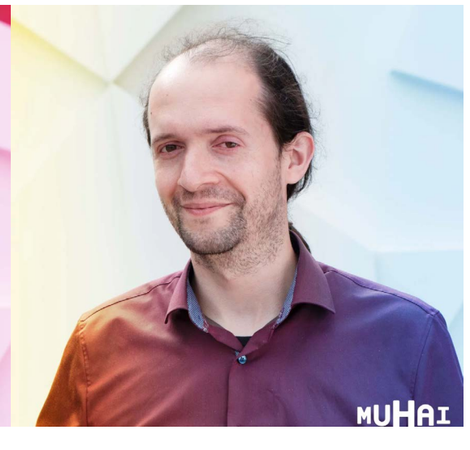

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Mihai Pomarlan

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Vrije Universiteit Amsterdam (VUA)

Lise Stork

In the MUHAI project, I work on human-understandable scientific hypothesis generation. Before that, I did a PhD on the extraction of knowledge from old biodiversity manuscripts. My favorite things: the outdoors, language exchange, board games, and bookshops.

Vrije Universiteit Amsterdam (VUA)

Annette ten Teije

Prof. AI in Medicine. My interest is in formal models that will allow computers to re-use knowledge in a different context from where it has been acquired, and medical knowledge is the experimental area. My passion for research is only equallyed by my passion for running.

University of Bremen (UHB)

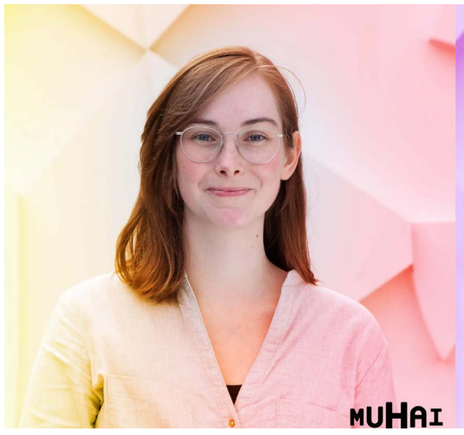
Robert Porzel

I studied general linguistics, computational linguistics and computer science and formalized embodied construction grammar at the University of California in Berkeley. I currently work on formalizing knowledge for understanding human language and activities as a Senior Researcher in Bremen.

Venice International University (VIU)

Carlo Santagiustina

I am a behavioural economist with a special love for tweetoric and computer science. Within MUHAI, I am contributing to the design and development of a web observatory for understanding people's views and narratives about social inequality, using social media data and semantic web sources, such as Wikipedia.



University of Bremen (UHB)

Laura Spillner

After studying Media and Computer Science, I started working as a Doctoral Researcher in Bremen. My interest lies in AI and understanding language: In MUHAI, I study how robotic agents can use common sense knowledge to execute recipes, and how they can learn new knowledge in the process.

Venice International University (VIU)

Luc Steels

I am an AI scientist working in the field since the early 1970s. In the MUHAI project I am the scientific director. From the side of VIU I participate in the conceptual foundations, technical work on understanding systems, and applications to social issues and art.

Vrije Universiteit Brussel (VUB)

Lara Verheyen

After studying Linguistics and Artificial Intelligence, I found my way to the VUB where I am currently a PhD researcher. Language has always fascinated me and now I spend my time conducting research on the topic of discourse understanding. I love reading and watching fantasy!

IMIM

Oscar Vilarroya

I am a neuroscientist who works on how the human brain adapts to critical life challenges, such as social conflict. In MUHAI, I am involved in addressing the cognitive aspects of narratives. In my spare time, though, I plunge into the world of performing arts.

University of Bremen (UHB)

Gerald Volkmann

I am research manager at the Center for Computing Technology in Bremen and I take care for the administration of the Muhai project. I studied computer science in Berlin and made my PhD at the University of Bremen. I love new research questions and innovations of all kind.

Apicbase (APIC)

Pieter Wellens

CTO and co-founder at Apicbase, always looking how we can bring the best product and experience to our customers. A sustainable and profitable world of food with zero waste is what we aim for. My passion is bringing sustainability, technology and people together.

Vrije Universiteit Amsterdam (VUA)

Ilaria Tiddi

I am an Assistant Professor in Hybrid Intelligence. I work on intelligent systems combining of symbolic and subsymbolic AI that can solve problems in e-Science and robotics scenarios. I love travelling, and can tell you how 3 truck drivers once fixed my car's broken engine in the middle of the Mongolian desert.

Vrije Universiteit Brussel (VUB)

Paul Van Eecke

I hold a PhD in Computer Science, an M.A in Linguistics and an M.Sc. in Artificial intelligence. Within MUHAI, I am involved in research on scaling constructional language processing. I like to build.

Vrije Universiteit Amsterdam (VUA)

Frank van Harmelen

I am a professor of AI at the VU. I'm interested in combining Knowledge Representation with Machine Learning, needed for achieving meaning and understanding in AI. If I'm not in the lab, the only place I'd rather be are the mountains.

SONY CSL Paris (CSL)

Remi van Trijp

I'm our lab's computational-linguist-in-chief and Principal Investigator of the MUHAI Paris team. I design language technologies for extracting meanings from text and building comprehension models. I also confess to keeping a list of words that are fun to say.

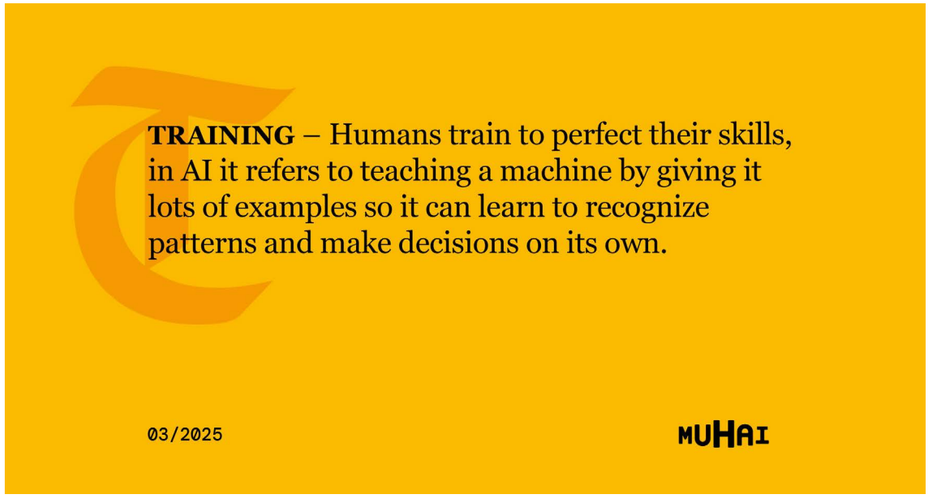
3.2 Word of the Month (#WOTM)

The Word of the Month campaign, launched in December 2021, was designed to bridge the gap between AI researchers and the wider public by explaining AI-related terminology in a clear and accessible way. Every month, a term commonly used in AI—such as understanding, meaning, or ontology—was selected and defined by a MUHAI researcher. The challenge was to craft definitions that were both brief and precise, with each entry limited to 280 characters (the length of a tweet) while maintaining clarity and relevance.

Each WOTM entry was visually enhanced with dedicated graphics and disseminated through MUHAI's social media channels. The campaign not only aimed to educate non-experts but also encouraged researchers to refine their ability to communicate complex ideas in an accessible way. By simplifying highly technical concepts, participants gained a deeper awareness of the challenges and opportunities in science communication.

3.2.1 #GlossAIry

To enhance accessibility, all WOTM entries were compiled in a dedicated GlossAIry section on the MUHAI website. Unlike social media posts, which are primarily image-based, this section presented the definitions as searchable text, ensuring that the content could be easily found online and used as a reference by anyone interested in AI terminology.



MUHAI

#wordofthemonth

/wɜ:d/· /əv/· /ðə/· /mΛnθ/ — *noun*

1. One reason that understanding language is so difficult for computers and AI systems is that words often have meanings based on their context and order.

2. At the same time, people often find it difficult to understand vocabulary and terms specific to computer science.

3. This is why, once a month, we will share with you the explanation of a word related to a key concept in MUHAI research.

Enjoy our feature #wordofthemonth!

GRAPH – A knowledge graph stores information as a network of facts, connecting different pieces of knowledge together like a web. It helps computers understand and process information more intelligently, making it easier to find answers and make decisions.

05/2024 MUHAI

NEUROSYMBOLIC – AI merges human-like reasoning with machine learning, integrating symbolic knowledge representation with neural networks. It combines the structured understanding of symbolic AI with the pattern recognition capabilities of neural networks, enabling AI systems to reason more like humans.

04/2024 MUHAI

EXPLANATION – The ability to explain one's actions and decisions can be considered a hallmark of true understanding. Artificial intelligence, therefore, needs to be able to provide reasons for its behavior so that human users can understand and trust it.

07/2023 MUHAI

TRUST – The belief that an AI agent will act in a manner that helps the trustor to fulfil their goal in a situation where they are dependent on the other party. Trust becomes very pertinent in vulnerable and risky situations.

06/2023 MUHAI

MODEL – A model, say a model of a house, leaves out many details in favor of key aspects. In AI logic, models define certain aspects of entities able to encompass everything within their range. A configuration of entities that conform to it is called an interpretation of the model.

03/2024 MUHAI

ANAPHORA – Anaphora resolution refers to the process of identifying and connecting pronouns or other referring expressions in a text to their corresponding antecedents (previous nouns or phrases). It supports language processes in building effective AI tools.

02/2024 MUHAI

INFERENCE – Is a method of obtaining conclusions from previous knowledge. For a method to count as inference, we often require it to be at least reproducible and invariant to factors considered irrelevant to some purpose.We would also require the method to be reliable:get correct conclusions based on available information.

05/2023 MUHAI

GRAMMAR – A grammar captures all linguistic knowledge that is needed to support language-based communication. Grammars are acquired, personal and dynamic. They emerge and evolve as a result of intentional communication.

04/2023 MUHAI

TERMS – Using logic, formal ontologies seek to define terms, such as "Knife" or "Fork", to capture human knowledge about such entities. For example, that the objects referred to by these terms are types of cutlery. The ensuing logical terminology can help computers in understanding everyday entities.

01/2024 MUHAI

COMMON-SENSE – Common-sense knowledge is what everybody knows, but nobody tells you. Behaving in everyday situations, which object to choose for a task, how to operate daily. This is acquired by living in the world, simple for a child, but one of the hardest problems in AI history. Computers don't "live in the everyday world".

12/2023 MUHAI

SYMBOL – The emergence of symbols was important for human cognition, as symbols are arbitrary conventionalized entities that represent something without being that something. Humans are skilled symbol users especially when using language that consists almost entirely of symbolic entities, such as words.

03/2023 MUHAI

INTELLIGENCE – Intelligence refers to the capacity of a human or artificial agent to solve problems by creatively applying previously acquired knowledge and skills.

02/2023 MUHAI

LEARNING – Learning is the process of constructing new knowledge, skills and behaviours based on prior experiences, reasoning and information processing. Learning leads to insightful understanding of the world and prepares for new challenges and making sense of new situations.

11/2023 MUHAI

GROUNDING – Symbols can be abstract, referring to imaginary concepts, or they can be grounded. In that case, the symbols refer to categorisations of real world objects. For instance, the symbol RED that we attribute to objects, by sensing the light reflection and identifying if the sensed data falls within a defined sensory subspace.

10/2023 MUHAI

ETHICS – Ethics are moral principles that govern a person's behavior. For AI, ethics has to do with whether an AI system has been properly constructed, for example with respect for the privacy of the data sources, and whether the system is used properly, for example that it is not used for cheating, criminal actions or the hidden manipulation of others.

01/2023 MUHAI

MEMORY – from a human-centric perspective, memories are personal collections of the traces of experiences together with the individual semantic conceptualization of these experiences. With new memories that are formed continuously over time and the corresponding conceptualization that evolve accordingly, human-centric personal dynamic memories are created.

12/2022 MUHAI

FRAMING – Sometimes, when entities in the background (frame) change they affect the meaning of some entity in the foreground (picture). For artificial intelligence this "framing problem" is very hard, as there is a potentially infinite amount of entities in the background that could exert an influence on the meaning of that situation.

09/2023 MUHAI

PRAGMATICS – Pragmatics is a linguistic branch that studies language in context. It delves into the ways speakers use language to achieve their communicative goals, examining the intricacies of language beyond its literal interpretations.

08/2023 MUHAI

ACTIVITY – as an activity we understand a frequently reoccurring assortment of actions that seek to achieve a particular goal, e.g. cleaning a room or preparing a meal can be done in many different ways, but what matters is that the goal – an orderly room or a specific meal – has been achieved.

11/2022 MUHAI

ROBUSTNESS – AI systems are said to be robust if they are able to survive and recover from substantial perturbations. Robustness is an inherent property of evolutionary systems, which are based on variation, selection and self-organisation.

10/2022 MUHAI

3.3 #futureAI

What do AI researchers envision for the future? Are they optimistic about AI’s potential, or do they have concerns about its ethical and societal implications? These questions formed the basis of futureAI, a visually striking campaign designed to capture expert perspectives on what lies ahead.

Inspired by the Renaissance-era Mantegna Tarots, the campaign reinterpreted these historical illustrations to align with MUHAI’s unique visual identity. Each modified tarot card featured a symbolic representation of AI’s future, paired with reflections from MUHAI researchers on their hopes, fears, and predictions for AI’s evolution. This combination of art and science offered a compelling and thought-provoking way to engage audiences beyond the academic sphere.

By blending historical imagery with forward-thinking discourse, futureAI encouraged dialogue on AI’s role in shaping our world, reinforcing the project’s overarching theme: AI is not just a technological advancement—it is a societal and cultural force that must be guided by human values.

#futureAI

1. What do AI experts and researchers look forward to in AI development?

2. What scares them in the future of artificial intelligence?

3. We asked MUHAI researchers to make an educated tarot reading and we combined them with the beautiful Mantegna's tarots.

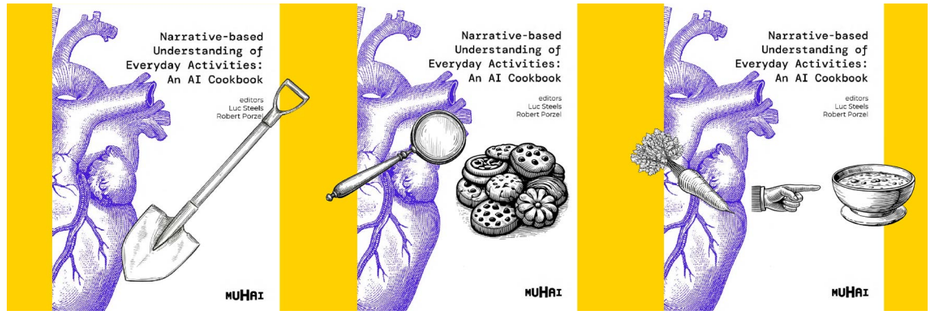
Enjoy our brand new feature #futureAI!

3.4 Vol.2 In-Depth and #fAIrewell

In the final months of the MUHAI project, two distinct campaigns were launched to enhance engagement and provide a meaningful conclusion to the initiative.

The first campaign focused on showcasing Volume 2 of MUHAI, a key project output that compiled contributions from consortium partners, highlighting the research conducted throughout the project. This campaign aimed to present the volume in greater depth, ensuring its insights reached a broad audience.

The second campaign, #fAIrewell, served as both a farewell and a bridge to future collaborations. It provided partners with an opportunity to send a "message in a bottle" to MUHAI's followers—acknowledging the human effort behind the research while also signalling openness to new partnerships. Each message included a designated contact point and key research interests, inviting continued dialogue and cooperation beyond the project's official conclusion.



Through these digital campaigns, MUHAI successfully transformed complex AI research into engaging narratives that resonated with diverse audiences. By putting people at the centre, demystifying AI language, and fostering meaningful discussions about its future, the project brought human-centric AI to life in a way that was both informative and inspiring.

Tool	**Status (31 March 2025)**
MUHAI Social media **followers** (Twitter, Facebook, instagram and LinkedIn)	Twitter: > 170 Facebook: > 327 Instagram: > 112 LinkedIn: > 121 **Total: > 430**
MUHAI Social media **posts**	Facebook: 227 Twitter: 227 Instagram: 227 Linkedin: 227
MUHAI Newsletter subscribers	118
MUHAI Newsletters sent	13 + 2 Seasonal Greetings

Table 1. Social Media and online communication performance.

The MUHAI project provided valuable insights into the challenges and opportunities of AI communication, both from the point of view of highly-specialized researchers and from that of science communictors. As AI technologies continue to evolve, fostering trust and transparency remains paramount. The study highlights three key recommendations for future AI communication strategies:

- Training AI researchers in communication: Equipping researchers with better outreach skills ensures greater public engagement and informed discourse.
- Enhancing collaboration between researchers and communicators: Dedicated science communicators can help bridge knowledge gaps and improve outreach efforts.
- Diversifying communication formats: A combination of traditional media, digital campaigns, and artistic collaborations can enhance AI's public understanding and trust.
-

While MUHAI did not dramatically alter AI discourse, it reinforced the importance of well-structured communication strategies in shaping public perceptions and policymaking. In an era where AI narratives fluctuate between utopian and dystopian extremes, projects like MUHAI highlight the need for balanced, ethical, and transparent discussions—ensuring AI serves society responsibly and inclusively.

Disseminating human-based AI

MUHAI

Meaning and Understanding in Human-centric Artificial Intelligence

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