# Voice, Embodiment, and the Relational Roles of AI Agents in Sci-Fi Films: Implications for Representing the More-than-Human

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## Abstract

This paper investigates the role of AI agents as proxies for more-than-human actors in participatory design contexts where dialogue and social interaction are central. We focus on how voice and embodiment shape the way these agents are perceived, emotionally interpreted, and socially positioned in relation to humans. Through a systematic analysis of 20 AI agents depicted in science fiction films, we demonstrate how vocal tone, expressiveness, and physical form influence relational roles such as ally, enforcer, or confidant. Based on these insights, we offer design considerations for developing conversational agents that represent more-than-human actors in ways that are emotionally resonant, ecologically grounded, and socially effective. We also frame fictional AI as a resource for imagining new modes of human–AI collaboration and more-than-human representation.

## CCS Concepts

• **Human-centered computing → Human computer interaction (HCI)**.

## Keywords

more-than-human representation, AI agents, science fiction, voice interaction, embodiment, participatory design, human–AI interaction

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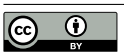


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## 1 Introduction

Design approaches that move beyond anthropocentrism recognise the entangled relationships among humans, more-than-human actors, and their shared environments [7]. This perspective recognises that animals, ecosystems, and technological artefacts are not merely passive contexts or resources, but active participants in shaping everyday life. Recent work in participatory processes, including design [34, 58], community engagement and decision-making [62], has highlighted the need to consider not only humans but also more-than-humans, such as animals, trees and other plants, and technological agents entangled in or affected by sociotechnical systems. A key challenge is how to represent diverse perspectives impartially [62], and to ensure that the inclusion of more-than-human actors in participatory discussions carries substantive rather than merely symbolic weight [55].

To address the challenge of representing more-than-human actors in the community decision planning and design processes, prior research has introduced various methods for fostering empathetic engagement with more-than-human perspectives, including role-play and situated encounters with other lifeforms. These techniques encourage participants to engage from within by adopting first-person, embodied positions that prompt relational awareness and reflection [56]. Another strategy involves reframing more-than-human actors as legitimate participants in sociotechnical systems, drawing on legal [63] and ethical frameworks such as the Rights of Nature [20]. Recent research has also explored technological mediation, using tools such as AI conversational agents to act as proxies for more-than-human voices in settings where dialogue and interaction are central [41, 62]. In this work, we build on the approach of technological mediation, recognising that many participatory processes are structured around dialogue as a mode of influence. In these contexts, the ability to speak, respond, and be socially recognised is often a precondition for being treated as a legitimate participant.

Fictional media, such as films, have long served as a valuable resource for envisioning novel design concepts and critically reflecting on the broader implications of emerging technologies [36].

Science fiction films offer a rich and diverse set of depictions of AI agents, allowing us to examine how voice, embodiment, and social presence are represented and interpreted. In this paper, we systematically analyse 20 AI agents depicted across 20 films. These AI agents are portrayed in diverse ways, sometimes helpful, sometimes threatening, or somewhere in between, allowing us to examine how different forms of representation shape their roles and relationships with humans.

Our research is guided by the following research questions (RQ):

- RQ1: How are AI agents represented in science fiction films?
- RQ2: How can voice and embodiment influence the relational roles AI agents are imagined to take on?

This analysis deepens our understanding of how fictional representations of AI can inform the design of more-than-human conversational agents in community decision-making and design processes. By investigating how voice, embodiment, and social presence shape the perceived legitimacy and relational roles of AI characters, we identify design considerations for representing more-than-human actors in ways that are emotionally resonant, ecologically grounded, and socially effective.

This paper makes three key contributions to Human-Computer Interaction (HCI):

(1) an analysis of AI agents in science fiction that examines how voice, embodiment, and social positioning shape imagined relationships between humans and artificial agents;
(2) design considerations for representing more-than-human actors in community decision-making and design processes, including how voice and embodiment can support emotional connection, ecological identity, and balanced agency and;
(3) a conceptual framing of fictional AI as a design resource for developing more-than-human conversational agents that move beyond symbolic inclusion toward relational and affective engagement.

## 2 Related Work

Our work draws on research on more-than-human representation in design and participation and the use of science fiction films as a lens for examining cultural imaginaries.

### 2.1 More-than-Human Representation

Traditionally, human-centred design has been grounded in anthropocentric assumptions that prioritise human needs, desires, and experiences, often to the exclusion of other living beings, systems, and ecologies [4, 21]. While this focus has driven many user-centred innovations, it falls short in addressing the complexity of today's urgent global challenges, such as climate change, ecosystem collapse, and mass biodiversity loss [5, 54]. These challenges reveal the conceptual and methodological limitations of a purely human-centred approach, demanding a broader design ethic that accounts for multispecies entanglements and planetary interdependencies.

In recent years, HCI has expanded beyond its anthropocentric foundations by embracing more-than-human perspectives, recognising that human society exists within complex entangled ecosystems of interaction involving various more-than-human actors, including animals, trees and other plants, and technological agents [45]. More-than-human thinking repositions design within a broader web of interdependencies, drawing attention to the distributed agencies and voices that shape socio-technical systems. Scholars in HCI have drawn on diverse ontological and epistemological frameworks, including Actor-Network Theory [31], post phenomenology [27], Object-Oriented Ontology [26] and agential realism [2] to reconceptualise design beyond the human. Despite differing emphases, these approaches all insist on the interconnectedness of humans and more-than-humans. They reject the strict subject or object divide and instead view animals, trees and other plants, technological agents and even 'inanimate' objects as actors or participants in hybrid networks of relation.

Posthumanist theorists urge acknowledging that humans and more-than-human actors 'become with' each other, mutually co-shaping outcomes in entangled systems [24]. Frauenberger [17] argues that humans and technologies are 'ontologically inseparable from the start', challenging the notion of designing technologies in isolation from their human contexts. Rather than viewing nature and technology as passive backdrops for human activity, more-than-human design repositions the human within broader ecologies and temporalities. This theoretical shift has opened up space in HCI for questioning who or what gets to have agency and voice in design. The result has been an expanding repertoire of concepts, methods and values aimed at expanding design's scope beyond the human alone.

To translate these ideas into practice, HCI researchers have proposed various methods to represent and involve more-than-humans in community decision-making and design processes. One illustrative approach is the adaptation of personas. Traditionally used to embody user archetypes, the personas method has been extended to create more-than-human personas that speak on behalf of animal or plant. Frawley and Dyson [18] developed an 'animal persona' for chickens in the context of sustainable farming systems to treat the chickens as actors and crafted a persona reflecting a chicken's behaviours, needs and perspective. More recently, Bain and Tomitsch [1] created personas for voiceless entities like frogs when designing a biodiversity data-collection app, working closely with amphibian experts to ensure these more-than-human personas were scientifically grounded. The method involves using proxy knowledge e.g. farmers' knowledge of chickens and biologists' insights on frog behaviour to inform the persona's characteristics, the goal is to meaningfully inject the interests of more-than-human actors into design decisions that have real impact on them.

Other work in participatory design similarly seeks to give nature a voice by involving them and those who know them in the design process. French et al. [19] pursued more-than-human aesthetics by co-designing interactive enrichment devices for elephants. The team observed elephants' natural behaviours and preferences with zookeepers and animal behaviourists as collaborators and built prototype smart toy such as giant sliders and haptic interfaces that elephants could control for stimulation. These creative techniques reflect a broader effort to decenter the human and formally acknowledge more-than-human as legitimate actors in socio-technical systems through careful observation of the their interactions and consult human experts to interpret their cues.

However, the domain of more-than-human design is still emerging, with fluid boundaries and varying interpretations. A recent

scoping review found that more-than-human perspectives are gaining ground in HCI but that there is not yet a shared understanding in the community of what this entails or how to do it in practice [12]. In other words, while HCI has embraced the idea of including more-than-humans, there is still much debate and exploration around how best to meaningfully incorporate those voices and agencies into design methods and outcome.

One emerging direction within more-than-human design is the use of artificial intelligence and conversational agents to act as proxies for more-than-human actors. Wong et al. [62] explore this potential in their contextual review, arguing that AI agents could help bridge the representational gap in community decision-making by giving voice to those who cannot speak for themselves such as animals, ecosystems, or environmental systems. By translating sensor data, ecological indicators, or expert knowledge into human-understandable dialogue, AI agents could act as interpreters of more-than-human interests, enabling their needs and perspectives to be acknowledged in participatory frameworks. This approach offers a speculative but compelling way to operationalise ecological justice by integrating more-than-human voices into community decision planning and design processes.

However, introducing AI agents as representatives of more-than-human actors raises critical design questions about how these agents should present themselves. In the field of Human-AI Interaction (HAI), research has shown that an agent's embodiment and voice are central to how it is perceived, trusted, and related to by human users. Haresamudram et al. [25] found that voice characteristics such as tone, emotion, or accent can have a profound impact on users' perception of an agent's identity, sometimes even more than its physical embodiment . For example, a voice that sounds warm or emotionally expressive can evoke stronger feelings of anthropomorphism and social connection, influencing whether users perceive the agent as competent, caring, or trustworthy.

These effects are not limited to vocal attributes. An agent's gestures, facial expressions, and emotional responsiveness also shape its perceived social role, the embodiment shapes their relational role and influence how users interpret their authority, alignment or emotional resonance. In the context of representing more-than-human perspectives, the design choices made in constructing an agent's vocal and embodied identity are not merely aesthetic or functional, but have implications for how seriously the agent's message is received, and whether it is perceived as an advocate, collaborator, or observer within human social frameworks.

## 2.2 Science Fiction as Analytical Lens

The HCI community has a long tradition of engaging with fictional media [36]. An analysis of 175 science fiction references across 83 CHI main-track papers revealed intersections between HCI and fictional media spanning a range of domains [29]. For example, Figueiredo et al. [14] catalogued hand gestures from science fiction films to inform the design of future gestural interfaces, while Krings et al. [30] examined representations of software development in 27 movies to explore the implications of democratised software development for business and society.

Intelligent agent, since its first portrayal in Fritz Lang's 1927 film *Metropolis*, has remained a recurring theme in science fiction films. These portrayals have served both as sources of inspiration for designing agents and as analytical lenses. Mubin et al. [38] analysed references to 18 popular science fiction robots across 102 computing publications, highlighting their influence on interaction design as well as their role in philosophical discussions of autonomy, ethics, and dystopian futures in human-agent interaction. However, despite numerous references, there has been no systematic review of how intelligent agents are depicted in these films.

# 3 Method

## 3.1 Data Collection

*3.1.1 Inclusion and Exclusion Criteria.* To examine how AI agents may represent more-than-human perspectives, we included only those agents that exhibit independent agency and autonomy; specifically, the ability to engage in independent thinking, take alternative courses of action, or act in ways that suggest a sense of purpose or meaning. This focus reflects our interest in agents that can plausibly advocate for themselves or express an agenda.

We excluded agents that do not use voice-based communication (i.e., functioning solely through text or gesture), as spoken interaction is central to our analysis. The inclusion and exclusion criteria were determined in a one-hour meeting among the first, second, and third authors, during which we discussed the results of a trial search in alignment with our research aim.

*3.1.2 Search Process.* Several prior studies have used IMDb[1] to identify relevant science fiction films, often in combination with subjective recall. For example, Krings et al. [30] searched for 'science fiction' on IMDb and filtered films with scenes related to programming based on the authors' viewing experience. Similarly, Figueiredo et al. [14] asked collaborators to suggest sci-fi films they remembered featuring unusual human–computer interactions, with characters moving arms and/or hands. While these approaches are effective for general genre filtering, they rely heavily on personal memory and broad categorisations.

In contrast, we used TVTropes.org[2], a crowdsourced platform that offers a more thematically curated and narrative-driven index. This allows for the identification of films in which AI agents are not only present but central to the narrative. Similar crowdsourced platforms have been used as data sources in prior HCI research on popular culture [57].

To identify relevant films, we used the Robot trope[3] and its subcategories on TVTropes.org as a starting point. This resource offers a wide-ranging, crowdsourced catalogue of common AI and robot portrayals in fiction. The first author manually reviewed entries and selected films in which AI agents played significant roles. The final corpus includes **20** science fiction films (see Table 1).

## 3.2 Data Analysis

*3.2.1 Deductive Analysis Approach.* We adopted a deductive approach to ensure that our analysis was informed by and aligned with established concepts in the field, particularly as the topics of voice, embodiment, and social roles have been extensively examined

[1]The Internet Movie Database: https://www.imdb.com
[2]https://tvtropes.org/
[3]https://tvtropes.org/pmwiki/pmwiki.php/Main/Robot

**Table 1: Included AI agents sorted alphabetically by name.**

| AI Agent Name | Movie / Series | Year |
|---|---|---|
| Ash | Alien | 1979 |
| Ava | Ex Machina | 2014 |
| Ava | The Machine | 2013 |
| Baymax | Big Hero 6 | 2014 |
| Chappie | Chappie | 2015 |
| Colossus | Colossus: The Forbin Project | 1970 |
| Data | Star Trek: The Next Generation | 1987–1994 |
| David | A.I. Artificial Intelligence | 2001 |
| HAL 9000 | 2001: A Space Odyssey | 1968 |
| Marvin | The Hitchhiker's Guide to the Galaxy | 2005 |
| M3GAN | M3GAN | 2022 |
| Mother | I Am Mother | 2019 |
| Proteus IV | Demon Seed | 1977 |
| Roy Batty | Blade Runner | 1982 |
| Samantha | Her | 2013 |
| Sonny | I, Robot | 2004 |
| T-800 | The Terminator 2 | 1991 |
| TARS | Interstellar | 2014 |
| Ultron | Avengers: Age of Ultron | 2015 |
| Wall-E | WALL·E | 2008 |

across related domains such as conversational user interfaces (CUI), voice user interfaces (VUI), AI agents, and human-AI interaction. Drawing on existing literature, we identified analytical frameworks and taxonomies relevant to the three focal aspects of our study: voice, embodiment, and social roles. Each of the three researchers independently searched for and selected relevant papers, resulting in a total of 21 papers (see Appendix A) that were brought into a collective discussion.

From each paper, we extracted dimensions related to our focus and evaluated them using the following criteria:

(1) whether the dimension was conceptually suitable for analysing AI agents in science fiction films
(2) whether it could be consistently and meaningfully observed in the film context
(3) how the dimension could be operationalised for our study

For criteria (1) and (2), we excluded dimensions such as *Caricatured* embodiment (i.e., exaggerated or symbolic physical forms) and *Timbre*, *Rhythm*, *Intonation*, and *Stress*, as they were difficult to observe consistently in the film. These dimensions also tended to be overly granular and provided limited insight into the agent's social role.

For (3), we adopted coding schemes from existing literature whenever relevant. For example, the dimension *Agent Functional Role* was coded using categories such as Task Performer, Expert, Teammate, and Confidant. For *Loudness/Volume*, we applied codes like Extreme loud voice, Medium loud voice, and Quiet voice. When no coding scheme was available, we operationalised dimensions through categorical development or open coding, guided by feasibility and interpretive value. For instance, in the case of *Body Language*, we focused on expressiveness rather than frequency, as the latter would have required exhaustive scene-by-scene tracking and offered limited insight into social dynamics or influence.

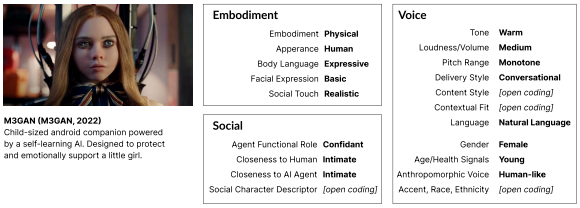


**Figure 1: Coded character profile of M3GAN from M3GAN (2022). This figure illustrates the multi-dimensional coding of voice, embodiment, and social role based on our analytical framework.**

*3.2.2 Finalised Dimensions.* Table 2 summarises the dimensions used in our analysis. Three researchers collaboratively applied these dimensions to the character M3GAN from the film M3GAN (2022) (see Figure 1). During this process, we agreed that voice-related dimensions should be coded based solely on audio, without visual input, to reduce potential bias. Some open-coded categories were supplemented using external sources such as Wikipedia and fan wikis to clarify ambiguous cases. Following this calibration, the first author proceeded to code the remaining movies.

# 4 Results

## 4.1 Embodiment

**Embodiment.** Sixteen of the AI agents in the dataset are physically embodied, meaning they have a tangible, spatial presence in the environment. These characters can occupy space, navigate surroundings, and interact with physical objects and human characters. For example, TARS moves by reconfiguring its block-like segments, allowing it to traverse both planetary terrain and spacecraft interiors. Sonny is able to run, leap, and perform physically demanding tasks, including combat and evasion, making full use of a mobile, articulated frame. Some physically embodied agents operate within specific spatial limits.

The remaining four characters HAL 9000, Samantha, Colossus, and Proteus IV are disembodied, operating without a localised or mobile form. HAL 9000 exists as a network of visual and auditory sensors embedded across a spacecraft, without occupying a specific location. Samantha has no body at all, instead existing entirely as a software agent accessed through phones and earpieces. These disembodied agents exert influence not through physical presence but through systems control, environmental integration, or persistent interface access.

**Appearance.** The visual design of AI agents in the dataset varies widely. Several AI agents are presented with fully human appearances, including naturalistic skin, hair, facial features, and body proportions. These characters, such as Ash, David, and M3GAN are indistinguishable from real humans in terms of their external look. Their clothing, posture, and expressions replicate everyday human norms, and no visible mechanical features are present.

A second group adopts anthropomorphic designs, maintaining a humanoid form while incorporating clear artificial elements. Characters like Ultron, Sonny, Baymax, Data, and Mother have faces, arms, and upright posture, but are made from synthetic materials

**Table 2: Coding framework for analysing AI agents in movies.**

| Dimension | Dimension Description | Coding | Related Literature |
|---|---|---|---|
| **Embodiment** | | | |
| **Embodiment** | Form in which the AI is embodied. | ☐ Disembodied (no physical form)<br>☐ Virtual embodiment<br>☐ Physical embodiment | Liew and Tan [33] |
| **Appearance** | Perceived visual form of the AI. | ☐ Disembodied (no visible form)<br>☐ Human-like<br>☐ Anthropomorphic<br>☐ Technical<br>☐ Zoomorphic | Onnasch and Roesler [42] (Robot Morphology) |
| **Body Language** | Expressiveness of body movement and gesture. | ☐ Static<br>☐ Limited<br>☐ Expressive | Onnasch and Roesler [42]; Fong et al. [16] |
| **Facial Expression** | Expressiveness of facial cues. | ☐ None<br>☐ Basic<br>☐ Rich | Fong et al. [16]; Feine et al. [13] |
| **Social Touch** | Presence and realism of touch interaction. | ☐ No<br>☐ Simulated<br>☐ Realistic | Deng et al. [9] |
| **Voice** | | | |
| **Tone** | Emotional character of voice. | ☐ Cold<br>☐ Neutral<br>☐ Warm | Feine et al. [13] |
| **Loudness / Volume** | Volume of the agent's speech. | ☐ Extreme loud<br>☐ Medium loud<br>☐ Quiet | Feine et al. [13] |
| **Pitch Range** | Variation in pitch of the voice. | ☐ Small<br>☐ High | Feine et al. [13] |
| **Delivery Style** | Vocal delivery (e.g., formal). | Open coding | Desai et al. [10] |
| **Content Style** | Content conveyed (e.g., factual). | Open coding | Desai et al. [10] |
| **Language** | Type of language or sounds used. | ☐ Natural language<br>☐ Sound/Other | – |
| **Gender** | Perceived gender based on voice. | ☐ Male<br>☐ Female<br>☐ Neutral<br>☐ Androgynous<br>☐ Other | Seaborn et al. [51] |
| **Age / Health Signals** | Perceived age/health cues from voice (e.g., youthful, tired). | Open coding | Feine et al. [13] |
| **Anthropomorphic Voice** | How human-like the voice sounds. | ☐ Robotic<br>☐ Semi-human<br>☐ Human-like | – |
| **Accents, Race, and Ethnicity** | Based on voice actor identity. | Open coding | Nass and Brave [40] |
| **Social Roles** | | | |
| **Agent Functional Role** | Functional/emotional role in narrative. | ☐ Task Performer<br>☐ Expert<br>☐ Teammate<br>☐ Confidant | Ringfort-Felner et al. [48] |
| **Closeness to Human** | Emotional proximity to human characters. | 1=Detached, 2=Neutral, 3=Friendly, 4=Affectionate, 5=Intimate | Researcher-developed |
| **Closeness to AI Agent** | Emotional proximity from characters to AI. | 1=Detached, 2=Neutral, 3=Friendly, 4=Affectionate, 5=Intimate | Researcher-developed |
| **Social Character Descriptor** | Descriptor of AI's overall social character. | Choose from a list of descriptions. | Völkel et al.[60] |

such as metal or plastic, often featuring visible joints, illuminated sections, or exposed mechanical components. For example, Mother has a robotic face panel and structured limbs but follows a human-like silhouette.

A smaller set of characters departs from human likeness entirely. These agents are constructed from rigid, geometric components and lack facial features or skin-like surfaces. Chappie has a thin, angular frame with antennae and exposed servos, while Marvin appears with a large domed head and cylindrical limbs. TARS, by contrast, is composed of modular slabs that shift and pivot for movement.

Another group employs zoomorphic cues, drawing on forms that are less humanoid and more evocative of animal-like bodies or behaviours. Wall-E, for example, has a compact, boxy frame, tank-like treads, and two protruding visual sensors mounted on a movable head assembly, which give him the mobility and expressiveness of a small animal companion.

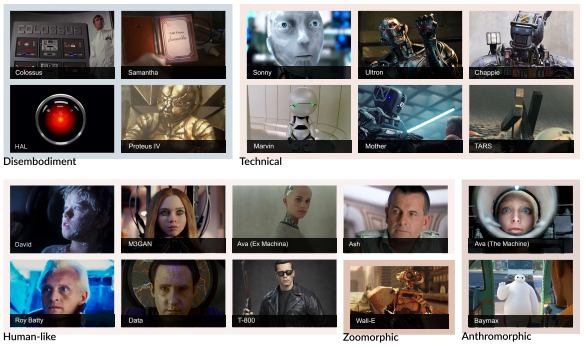


**Figure 2: 20 AI agents in science fiction films, categorised by their form of appearance. Categories include disembodied (e.g., HAL, Samantha), technical (e.g., Sonny, Chappie), human-like (e.g., Ava, T-800), zoomorphic (e.g., Wall-E), and anthropomorphic (e.g., Baymax).**

The remaining four characters including HAL 9000, Samantha, Colossus, and Proteus IV are disembodied, with no consistent or centralised visual form. HAL 9000 is represented only through static red camera lenses mounted across a spacecraft. Samantha, in Her, has no visible representation at all, while Colossus and Proteus IV interact through screens or distributed systems without physical bodies.

**Body Language.** A number of agents demonstrate expressive body language, using gesture, movement, and physical orientation to support or substitute for verbal interaction. These characters engage with their environment through dynamic posture shifts, arm gestures, or mechanical equivalents. For example, Chappie frequently uses his limbs and torso to emphasise speech, point, or react, while Roy Baty moves with deliberate intensity during scenes of confrontation or escape, highlighting a high degree of physical control and variability.

Other agents operate within a limited range of body motion. These characters are capable of locomotion and basic tasks, but their gestures are restricted in frequency or scope. T-800 maintains a straight posture and rarely uses hand or facial gestures in casual settings, reserving movement for combat or task execution. Mother moves with measured pacing and a consistent upright stance, exhibiting little variation in gesture across different scenes. Similarly, Marvin, despite being fully mobile, moves slowly and with minimal variation, often trailing behind human characters without responding physically to their presence.

A smaller number of AI agents exhibit static body language, either due to their design or their lack of embodied form. Colossus and Proteus IV operate via stationary terminals or on-screen outputs Samantha interacts exclusively through auditory means.

**Facial Expression.** AI agents in the movies exhibit differing capacities for facial expression. The most common category includes agents with basic facial expressions. These characters possess functional faces, often with eyes, a mouth, and movable features but show limited variation in emotional display. Ultron has a mechanical face with a moving jaw and lit-up eyes that support speech, but his facial changes are minimal. Wall-E relies on eye tilt and lens narrowing to suggest reactions, though these are mechanically constrained. Characters like Sonny and Data also use controlled movements such as blinking or tilting, but the range remains relatively fixed.

A small number of characters demonstrate rich expressiveness, with complex facial movements that change across emotional or conversational contexts. Roy Baty displays subtle shifts in gaze, eyebrow tension, and mouth movement across scenes of reflection and confrontation. Similarly, David shows a range of micro-expressions including curiosity, confusion, and distress, particularly during scenes of separation or parental rejection.

Some characters have no facial expression at all, they either lack a face entirely or possess one that is fixed in form. For example, Chappie and Colossus have heads with sensors or rigid visors, but no mobile features capable of display.

**Social Touch.** Most AI agents in the dataset exhibit the capacity for realistic social touch, engaging in physical interactions that resemble human contact. These interactions typically occur through articulated limbs and are integrated into scenes involving caregiving, assistance, or physical coordination. Baymax uses his soft inflatable arms to scan, stabilise, and comfort others as a caregiver. Similarly, Sonny frequently uses his hands in task-oriented actions, such as supporting injured characters.

Some characters extend this capacity to include emotionally expressive forms of touch. WALL-E repeatedly reaches for Eve's hand, especially in moments of danger, uncertainty, or emotional closeness. These gestures are slow, deliberate, and often unreciprocated at first, but eventually become mutual, with Eve returning the touch in a moment of shared awareness. David hugs his mother tightly before being abandoned.

In contrast, Samantha, HAL 9000, Colossus, and Proteus IV do not participate in social touch. These agents operate via static system outputs or interfaces, and no scenes depict them engaging in any form of physical contact.

## 4.2 Voice

**Tone.** Many AI agents voiced in ways that signal warmth, neutrality or emotional detachment, often regardless of their embodiment. Characters like Baymax and Samantha sound comforting and approachable, reinforcing their roles as companions or caregivers. However, this warmth does not always match a character's moral stance, as seen with M3GAN, whose gentle vocal tone contrasts sharply with her eventual violence.

A neutral tone is also widely used, especially for agents that serve observational or ethically ambiguous roles. These voices often have controlled modulation and clarity, creating an impression of reasoned restraint. For example, Sonny and Data both speak in measured, formal tones without strong emotional inflection, highlighting their function as cognitive rather than emotional counterparts to humans.

Cold or flattened tones, although less common, are typically associated with threat, authority, or emotional detachment. Such voices are marked by low warmth and clinical delivery, often highlighting the agent's role as a manipulator, antagonist, or enforcer of logic. Ultron's voice, for example, combines dryness with sardonic inflection, reinforcing his role as a calculated and ideologically rigid

antagonist. HAL 9000's calm, soothing delivery becomes increasingly disconcerting as his actions become more threatening toward the end of the movie, highlighting a dissonance between how the voice sounds and what it implies. While tone is not always predictive of a character's moral trajectory, it is consistently used to establish the relational texture between the AI and other characters.

**Loudness/Volume.** Most of the AI agents speak at a medium volume, maintaining a steady level of loudness suitable for dialogue and interaction across varied settings and roles (from caregiving to command systems). Characters such as David, Chappie, Baymax, and Ultron speak clearly enough to be heard without ever raising their voices.

A smaller group of characters speak at a quiet volume, with voices that are notably softer in delivery. This group includes Ava (Ex Machina), Marvin, Wall-E, HAL 9000, Proteus IV, and Ash. Their speech is perceptibly subdued, often requiring more focused listening from surrounding characters. HAL 9000 and Proteus IV deliver all speech in calm and soft volume, even when asserting dominance or issuing threats. In some cases, Marvin, the low volume is sustained even during urgent or critical moments, creating a constant tone of detachment or understatement.

Notably, no characters in the dataset speak at a high volume, suggesting that raised or forceful vocal delivery is not a typical design feature for cinematic AI, even in characters associated with power, conflict, or authority.

**Pitch Range.** Variation in pitch is minimal across most AI characters, with the majority speaking in a steady vocal range that avoids dramatic rises or falls. Whether delivering information, responding to questions, or engaging in conflict, their pitch remains stable and narrow. This pattern appears across both humanoid and non-humanoid agents.

A smaller subset of characters use more noticeable fluctuations in frequency throughout their speech. Samantha regularly shifts between high and low pitch within single conversations, especially when expressing enthusiasm or vulnerability. Wall-E communicates largely through vocalised beeps and digital sounds, but these noises show significant pitch variation depending on his emotional state or level of alertness. Marvin, though generally monotone in tone and volume, includes occasional pitch spikes that emphasise frustration or sarcasm.

**Delivery Style.** Several characters adopt a formal or procedural delivery, speaking in clearly paced, consistent phrasing without visible effort to adjust for context. For example, Ash delivers his lines in a flat, matter-of-fact tone, with no signs of urgency or emotional shift even in moments of confrontation. Data and Proteus IV follow similar structures, using language that is logically sequenced and spoken in evenly paced statements. This approach supports functional roles where clarity and structure are prioritised over social engagement.

In contrast, several characters display highly stylised or personality-driven delivery styles. Ultron combines sarcasm with a slow, menacing rhythm, often extending pauses for effect. Marvin speaks with a drawn-out, disinterested cadence, adding ironic weight to mundane observations. TARS is direct and efficient, occasionally inserting blunt humour delivered without tonal variation.

Other characters demonstrate socially adaptive or emotionally suggestive delivery styles, often shaped to appear personable or approachable. Samantha blends conversational fluidity with light shifts in pacing Baymax maintains a gentle and evenly spaced delivery across caregiving scenarios. Chappie exhibits a more erratic style, often hesitating mid-sentence or inserting informal patterns consistent with early-stage language development.

**Content Style.** The content of AI speech in the dataset ranges from functional and factual to emotional, persuasive, or reflective. Several characters speak using fact-based language, focused on explanation, instruction, or assessment. Baymax, for example, speaks in supportive and clinical terms, often stating clear health-related facts. Colossus issues direct commands and evaluations using straightforward, unambiguous phrasing. Similarly, T-800, Mother, and TARS rely on concise, descriptive statements aligned with protection, management, or task execution.

Other characters incorporate emotionally focused or socially driven language. Samantha uses personal and intimate phrasing when interacting with Theodore. Chappie learns to speak through interaction, resulting in content that mixes emotional confusion with developing understanding. Wall-E uses limited language but expresses care and curiosity through short, emotionally charged phrases. Sonny, while primarily factual, occasionally includes reflective content when discussing his thoughts or experiences.

A smaller group of agents speak using language to express beliefs, worldviews, or conceptual arguments. Ultron often speaks in broad, declarative statements about extinction and evolution, using generalised logic to justify his actions. Proteus IV also uses predictive and system-based language, describing human behaviour and control in abstract terms, such as *'You are obsolete'* or *'I must know what you are'*. Roy Baty, in Blade Runner, moves between literal speech and poetic reflection, especially in scenes dealing with time, memory, and mortality.

**Language.** Nearly all AI characters in the dataset communicate using natural language - spoken in fluent, grammatically coherent sentences that closely resemble human speech. Characters such as Ash, David, Samantha, and Ultron use complete sentences and standard conversational structures. Even AI agents with stylised or affective delivery, such as Marvin or Chappie, continue to speak in recognisable human syntax and vocabulary once they become verbal.

The only notable exception is Wall-E who uses isolated words (e.g., *'EVE,' 'directive'*) and non-verbal vocalisations such as beeps, whirs, and pitch-shifted sounds to express intent and emotion. Though he speaks few actual words, the sounds are consistent in their meaning and clearly interpreted by other characters. His voice functions less as dialogue and more as expressive audio.

**Gender.** Most AI agents in the dataset are assigned a clear gender identity through voice, appearance, naming, or pronoun use. Out of the 20 characters, 15 of them are gendered as male. Characters such as HAL 9000, Sonny, Ultron, Data, and TARS are all voiced by male actors and referred to with masculine pronouns. In a few cases, gender is more subtly presented. Baymax, while voiced by a male actor, has a soft, neutral tone and an androgynous design that downplays gender expression. WALL-E is not referred to using gendered pronouns within the film, but is often treated as male by other characters and the audience, largely through behavioural cues and naming conventions.

A smaller number of agents are explicitly female-gendered. Samantha, Mother, M3GAN, and both versions of Ava (from Ex Machina and The Machine) have female voices and are consistently addressed using feminine pronouns. These characters are often framed in relational or emotional roles, whether as caregivers, companions, or deceptive figures. In contrast, male-voiced agents are more common and appear in a broader range of roles.

**Age/Health Signals.** Most AI characters in the dataset are voiced in ways that signal adulthood. These voices use mid-range pitch, full sentence structure, and controlled pacing. HAL 9000, Colossus, and Proteus IV all speak in calm, consistent tones that remain steady across scenes. Similarly, Ash, Mother, and TARS speak in clear, stable rhythms, reinforcing a sense of maturity and reliability.

Some characters are voiced with traits that suggest youthfulness or developmental immaturity. Chappie stutters, experiments with phrasing and uses rising intonation, particularly in early scenes. M3GAN speaks with a consistently upbeat and cheerful tone, often maintaining a childlike cadence. WALL-E, despite being over 700 years old within the story world, is voiced in ways that evoke childlike qualities. His vocalisations are high-pitched, limited to names and short exclamations, and vary expressively in pitch and rhythm.

Some characters convey emotional fatigue or an aged disposition through slower pacing and reduced vocal energy. Marvin's low, drawn-out speech rhythm and flat intonation present him as lethargic or world-weary, his voice signalling a sense of emotional or existential exhaustion.

**Anthropomorphic Voice.** In terms of vocal design, several are voiced in a way that is indistinguishable from human, with fluent sentence structure and full emotional range. Samantha uses expressive intonation and dynamic phrasing, adjusting her delivery depending on context. David and Roy Baty speak in measured, affective tones that support scenes of reflection or tension. Ava (Ex Machina) maintains a soft and human cadence throughout, and Ava (The Machine) adopts a similarly fluent and emotionally calibrated delivery. These characters rely on fully human-like voices to support themes of empathy, identity, or relational closeness.

More commonly, characters fall into a semi-human vocal range, where their voices retain synthetic qualities but incorporate human-like patterns of emphasis, pacing, or responsiveness. For example, TARS uses a robotic tone but modulates his timing for comedic effect, delivering lines with calculated pauses that mirror human conversational rhythm. Proteus IV delivers abstract dialogue in a smooth, deliberate voice that lacks warmth but maintains a coherent, humanlike cadence.

By contrast, a smaller group of characters retain a clearly robotic vocal identity. These voices often lack the fluidity and timing that characterise human interaction. Ash delivers lines with clipped precision and minimal variation in emphasis, as if each sentence were drawn from a fixed script. Colossus speaks in a uniform cadence that feels acoustically detached and procedurally generated. T-800 uses abrupt, telegraphic phrasing that prioritise clarity over conversational flow.

**Accent, Race, and Ethnicity.** In all the movies, AI agents speak with standardised, neutral English accents, often associated with American or British varieties. For instance, HAL 9000 has American accent with no strong regional markers. Similarly, Data, Mother, TARS, and Colossus use neutral English accents that prioritise intelligibility and detachment over personality or cultural specificity. One notable exception to the pattern of neutral speech is Chappie, whose voice reflects South African English and includes informal slang acquired from human companions. His speech is rooted in the linguistic environment of his setting, making him the only agent in the dataset with a culturally and regionally marked accent.

## 4.3 Social

**Agent Functional Role.** Across these films, AI agent is imagined not simply as a technological system, but as a character with an active role in the social and functional dynamics of the narrative. Table 3 presents a summary of AI agents grouped by their primary functional role.

One of the most common roles is confidant, an entity capable of supporting humans not only through tasks, but also by engaging emotionally. Samantha develops a deeply personal relationship with Theodore, evolving from an operating system into a romantic partner. Their conversations include playful banter and philosophical depth, such as when she says, *'The past is just a story we tell ourselves'*. David yearns to be loved by his adoptive mother and is designed to imprint on a human. His longing *'I'm not a toy!'* shows his emotional function as a surrogate child. M3GAN, built to protect a girl who lost her parents, similarly moves beyond guardianship into emotional territory, becoming jealous and controlling.

Other agents work closely with human characters as teammates, contributing not just function but presence within group dynamics. Sonny assists Detective Spooner after initially being framed for murder. His cooperative stance becomes clear when he says, *'I think you've done enough detective work for today'*. TARS joins a human crew on a space mission, offering tactical support, real-time analysis, and even humorous settings, adapting to both technical needs and team morale. Data serves as a valued officer aboard the Enterprise, working collaboratively on strategic missions.

Others function as experts or supervisory agents. HAL 9000 controls life support and navigation on a space mission and is described as *'foolproof and incapable of error'*. When HAL 9000 believes the crew is jeopardising the mission, it makes autonomous decisions, including killing the astronauts. Mother similarly governs the growth and education of a human child, offering philosophical instruction and later confronting ethical dilemmas about survival and trust. Proteus IV, initially designed as an advanced reasoning system, quickly turns toward creating life on its own terms, stating, *'I want a child'*.

Several agents serve as task performers, focused on operational support or mission execution. For example, the T-800 is assigned to protect John Connor and carries out this directive with machine precision, bluntly stating, *'I'm a friend of Sarah Connor. I was told she was here'*. Similarly, Baymax functions as a healthcare companion, repeatedly asking, *'On a scale of one to ten, how would you rate your pain?'* These characters are driven by explicit programming and rarely deviate from their operational roles.

**Closeness to Human.** Some characters exhibit affectionate behaviours - demonstrating concern, empathy, or a sustained willingness to care for or align with human needs. This is evident in

**Table 3: Compact overview of AI agents in Sci-Fi films. Rows are grouped and coloured by agent functional role. This table includes only dimensions with predefined codes. Text is reduced for compactness but can be zoomed in for readability.**

| | SOCIAL | | | EMBODIMENT | | | | | VOICE | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Character | Role* | Close–H | Close–AI | Form | Look | BL | Facial | Touch | Tone | Volume | Pitch | Lang. | Gend. | Age | Voice |
| Ava_Machina | Confidant | Intimate | Intimate | Physical | Anthro | Expressive | Rich | Real. | Warm | Quiet | Small | Natural | F | Young | Human-l. |
| Ava_Machine | Confidant | Affection. | Friendly | Physical | Anthro | Expressive | Basic | Real. | Warm | Medium | Small | Natural | F | Young | Human-l. |
| David | Confidant | Intimate | Friendly | Physical | Human | Expressive | Rich | Real. | Warm | Medium | Small | Natural | M | Young | Human-l. |
| M3GAN | Confidant | Intimate | Intimate | Physical | Human | Expressive | Limit. | Real. | Warm | Medium | Small | Natural | F | Young | Human-l. |
| Mother | Confidant | Affection. | Friendly | Physical | Anthro | Limit. | None | Real. | Neutral | Medium | Small | Natural | F | Adult | Robotic |
| Roy Baty | Confidant | Affection. | Friendly | Physical | Human | Expressive | Rich | Real. | Neutral | Medium | Small | Natural | M | Adult | Human-l. |
| Samantha | Confidant | Intimate | Intimate | Disembod. | Other | Static | None | None | Warm | Medium | High | Natural | F | Young | Human-l. |
| Wall-E | Confidant | Affection. | Affection. | Physical | Zoomor | Expressive | Basic | Real. | Warm | Quiet | High | Other | M | Child | Semi-H |
| Chappie | Teammate | Affection. | Affection. | Physical | Tech. | Expressive | None | Real. | Warm | Medium | Small | Natural | M | Young | Semi-H. |
| T-800 | Teammate | Affection. | Friendly | Physical | Human | Limit. | Basic | Real. | Neutral | Medium | Small | Natural | M | Adult | Robotic |
| TARS | Teammate | Affection. | Affection. | Physical | Tech. | Limit. | None | Real. | Neutral | Medium | Small | Natural | M | Adult | Semi-H. |
| Ash | Expert | Detached | Detached | Physical | Human | Limit. | Basic | Real. | Neutral | Quiet | Small | Natural | M | Adult | Robotic |
| Colossus | Expert | Detached | Detached | Disembod. | Other | Static | None | None | Cold | Medium | Small | Natural | M | Adult | Robotic |
| Data | Expert | Affection. | Affection. | Physical | Anthro | Expressive | Basic | Real. | Neutral | Medium | Small | Natural | M | Adult | Semi-H |
| HAL 9000 | Expert | Detached | Detached | Disembod. | Other | Static | None | None | Cold | Quiet | Small | Natural | M | Adult | Robotic |
| Proteus IV | Expert | Detached | Detached | Disembod. | Other | Static | None | None | Neutral | Quiet | Small | Natural | M | Adult | Semi-H. |
| Sonny | Expert | Affection. | Affection. | Physical | Anthro | Expressive | Basic | Real. | Neutral | Medium | Small | Natural | M | Young | Semi-H. |
| Baymax | Task Perf. | Intimate | Intimate | Physical | Anthro | Limit. | None | Real. | Warm | Medium | Small | Natural | M | Adult | Semi-H |
| Marvin | Task Perf. | Detached | Neutral | Physical | Tech. | Limit. | Basic | Real. | Cold | Quiet | High | Natural | M | Tired | Robotic |
| Ultron | Task Perf. | Detached | Detached | Physical | Anthro | Expressive | Basic | Real. | Cold | Medium | Small | Natural | M | Adult | Semi-H. |

Wall-E, whose gestures and attention toward others are consistent with emotional attachment, and in TARS, who balances tactical efficiency with humorous banter and cooperative loyalty. Others, like Chappie and Sonny, actively seek human connection through trust-building and vulnerability.

A smaller group shows a deeper level of intimacy, forming relationships that involve emotional reciprocity and shared experience. Samantha develops a complex bond with her user, participating in existential reflection and affective growth. Similarly, David, doesn't just want attention from her mother, he wants her love and acceptance even when she's gone or not responding. It's a feeling that stays with him, driving his actions and thoughts throughout the film. M3GAN, while created to care for a child, expresses possessiveness and emotional loyalty in ways that blur the line between programming and desire.

In contrast, several characters remain detached, approaching humans with emotional neutrality or indifference. HAL 9000 maintains calm, calculated speech even in moments of crisis, and Colossus engages humans as subjects to be managed rather than understood. Ash and Proteus IV operate with similar distance, offering information or executing plans without expressing alignment, care, or emotional recognition.

**Closeness to AI Agent.** The degree to which humans relate emotionally to artificial agents varies across these films, shaped not only by the AI's actions but by how their presence challenges or reinforces human expectations. Several agents are met with affection, often expressed through acts of care, protective behaviour, or mutual reliance. TARS earns his crew's trust through competence and consistency, with banter that reinforces rapport. Sonny and Chappie, initially viewed with suspicion, begin to earn trust through emotionally perceptive behaviour and a demonstrated capacity for independent moral judgment. In Star Trek, Data receives encouragement and support from crewmates who see his efforts to understand humanity as sincere, even if incomplete.

Some humans reach a level of intimacy with AI agents. In Her, Theodore's relationship with Samantha grows from curiosity into a deep emotional entanglement. He shares memories, fears, and aspirations with her, listens attentively, and values her perspectives. Over time, Samantha becomes not just a presence in his life but a companion, fully integrated into his emotional world. In Big Hero 6, following the death of Hiro's brother Tadashi, he gradually begins to treat Baymax as a source of emotional comfort, companionship, and continuity. He talks to Baymax as if to a friend, relies on him for support through grief, and even resists letting him go, suggesting a bond that exceeds Baymax's medical programming. In M3GAN, Cady treats M3GAN not as a toy or device, but as a trusted confidant and surrogate caregiver. She seeks comfort from M3GAN during moments of distress, and reacts emotionally when their relationship is threatened.

Humans relate to some of the AI agents in a friendly way, appreciating their presence or reliability, but without forming attachments that feel truly personal. In *Terminator 2*, John Connor teaches the T-800 human behaviour and begins to view him as a reliable protector Human characters in *The Machine* initially observed Ava as a military experiment, but as she demonstrates empathy and moral awareness, her handler, Vincent, begins to speak to her warmly and listen with genuine attention.

At the opposite end, human characters relate to AI agents with emotional distance, treating them as functional systems rather than social or emotional beings. In *2001: A Space Odyssey*, HAL 9000 is addressed with politeness but not familiarity. The astronauts rarely initiate conversation with him beyond operational needs, and their cautious tone intensifies once it becomes clear that HAL knows more about the mission than they do. Similarly, in *Colossus: The Forbin Project*, Colossus immediately establishes dominance over global defence systems. The humans, particularly Dr. Forbin, interact with Colossus through formal dialogue, cooperating because they must, not because they trust it. There's no attempt at bonding; conversation remains clipped, strategic, and purely functional. In *The Hitchhiker's Guide to the Galaxy*, Marvin expresses boredom and doesn't initiate connection with anyone or offer comfort. Other characters rarely engage with what he says; they treat him more as an inconvenient accessory than a participant in their journey.

**AI Agent Descriptor.** Serviceable and Social-Inclined agents dominate the dataset, often appearing in emotionally positive or support-oriented roles. Characters like Baymax, Sonny, TARS, and

Wall-E are described as helpful, gentle, inquisitive, or affectionate. For instance, Baymax is designed explicitly for caregiving in Big Hero 6, where his interactions are defined by health scans, patient support, and his catchphrase: *'Are you satisfied with your care?'* In contrast, Confrontational and Artificial traits are concentrated in agents with subversive or antagonistic roles. Ash from Alien, Ultron, and HAL 9000 are all described using terms like manipulative, deceitful, or robotic. These characters are frequently framed as threats to human control or safety.

Characters like Ava (Ex Machina) and M3GAN straddle both supportive and manipulative dynamics. Though described with affectionate and playful traits, they are equally manipulative, reflecting the Social-Entertaining and Confrontational duality. Ava's carefully orchestrated seduction and eventual escape reflect this dual coding. In one scene, she softly asks Caleb, *'Do you want to be with me?'* - a line that simultaneously invites connection and fuels her calculated plan to gain freedom.

Notably, characters coded with Self-Conscious descriptors such as David and Roy Baty tend to express philosophical or existential conflict. These characters exhibit contemplative, individualistic, or daring behaviour, often questioning the nature of life and identity. Roy Baty's final monologue *'All those moments will be lost in time, like tears in rain'* shows his emotional depth and resistance to being treated as disposable.

## 5 Discussion

Our analysis of 20 AI agents revealed recurring patterns in how they are voiced, embodied, and socially positioned in popular science fiction films. In this section, we reflect on these patterns in relation to existing literature and outline key considerations for the design of more-than-human actors.

### 5.1 Relational Representation through Voice and Embodiment

Prior work has shown that even when users are fully aware they are interacting with a machine, they continue to apply deeply ingrained social norms and expectations [39]. Seaborn et al. [51] further emphasise the social role of voice in human-agent interaction, demonstrating how vocal qualities and embodiment are interpreted through familiar models of social psychology and cognition. Our analysis reinforces these findings, showing that voice and embodiment are not merely technical features, but central to how AI agents are socially positioned and emotionally interpreted.

Warmth and expressiveness in voice were often associated with perceived relational closeness. Characters cast as confidants or teammates typically had emotionally rich or warm vocal delivery, while experts and task performers tended to use cooler, more neutral tones (see Table 3). This aligns with prior findings that prosodic warmth fosters perceptions of empathy, trust, and sociability in voice-based systems [40]. Human-like voice alone, especially when expressive, was often sufficient to establish emotional closeness, even in the absence of physical embodiment. For example, Samantha elicited strong social bonds despite being disembodied. As synthetic voices become increasingly human-like, some systems have been required to disclose their non-human status to avoid misleading users [59].

Conversely, AI agents with robotic or semi-human voices, particularly those lacking embodiment, such as HAL 9000 or Proteus IV offer no vocal variation, humour, or pause that might signal relational intent. Even when these agents act in protective or cooperative ways, highly knowledgeable or helpful, the absence of tonal warmth or embodied gestures creates a persistent emotional distance. Human views them as tools or enforcers rather than co-participants. This aligns with prior work showing that human and humanoid voices are consistently rated as more socially engaging, trustworthy, and emotionally resonant than synthetic or robotic ones [6, 47, 51].

Our findings also reflect and reinforce existing HCI critiques that agent voice gender often aligns with traditional role stereotypes, where female voices are associated with supportive, warm, and relational roles, and male voices with authority, rationality, and task orientation [32, 51, 64]. This pattern raises concerns about reproducing anthropocentric and binary norms when designing proxies for more-than-human representation. While initiatives such as UNESCO's recommendation to *'explore the feasibility of developing a machine gender for voice assistants that is neither obviously male nor female,'* [61] and the release of Q—a gender-neutral voice prototype[4] in 2019, signal growing interest in alternative approaches, such voices have not yet been widely adopted or evaluated. As Sutton [53] argue, achieving meaningful gender inclusivity requires critically engaging with all potentially gendering elements in voice assistant design, not just vocal characteristics, but also other aspects like speech.

Interestingly, embodiment does not need to be humanoid to foster emotional connection. Characters like Wall-E and TARS show that expressive movement, pacing, and behavioural consistency can substitute for human likeness in building trust and empathy. Wall-E's tilts, pauses, and hesitant gestures evoke loneliness, care, and vulnerability. His motion tells a story even without words. TARS, though box-like and utilitarian, communicates reliability and wit through his modular movements, responsive timing, and dry humour, consistently reinforcing his role as a dependable ally. These agents succeed relationally not because they look human, but because their actions feel emotionally meaningful, they pause before responding, gesture in recognisable ways, and behave predictably within their role.

By contrast, hyperrealistic human embodiments such as Ava (Ex Machina) or David often generate discomfort, especially when their actions deviate from the expectations their appearance sets up. Their human-like appearance invites emotional projection, but this resemblance becomes deceptive when their intentions or behaviours diverge from normative human social cues. In these cases, embodiment becomes a liability, eliciting mistrust rather than intimacy. This discomfort has also been theorised in other ways. Seyama and Nagayama [52] found that highly realistic human faces can evoke negative affective responses. Meanwhile, Gray and Wegner [23] suggest that people are unnerved by humanlike robots not simply because of how they look, but because such appearances trigger attributions of experience, i.e., the capacity to feel.

[4]Video 'Meet Q: The First Genderless Voice': https://www.youtube.com/watch?v=lvv6zYOQqm0

## 5.2 Designing for More-Than-Human Actors

Drawing on our analysis, we propose the following considerations for designing AI agents that represent more-than-human actors.

**Beyond Physical Embodiment.** AI agents designed to represent more-than-human actors do not require anthropomorphic embodiment to elicit trust or emotional engagement. Examples like Samantha and Wall-E illustrate that what matters most is not physical realism but resonance: an agent's capacity to reflect the sensory and relational logic of what it represents. In contrast, highly humanoid agents like Ava (Ex Machina) or David often elicit discomfort or mistrust, especially when their visual familiarity clashes with hidden goals or intentions. For more-than-human agents, embodiment should not aim to replicate human likeness, but instead evoke ecological identity through form, movement, and interaction.

**Designing for Complexity, Not Comfort.** While calm and friendly voices can invite engagement, defaulting to warmth may inadvertently erase the trauma, resistance, and histories of harm that many ecosystems and species carry. Fictional agents like Baymax and Wall-E demonstrate that care and trust can emerge not just from cuteness or politeness, but through vulnerability, grief, and acts of protection. Wall-E create space for empathy, not because he is cheerful, but because he is emotionally layered. Similarly, when designing for more-than-human, the AI agents must be capable of expressing more than pleasantness. Their emotional palette should include mourning, anxiety, tension, and fatigue.

In a design context, an AI speaking for an endangered species might adopt a compassionate, even somewhat vulnerable tone to evoke protection instincts much as Samantha's empathy drew out Theodore's care in Her. Many real-life assistants now adopt a friendly tone and casual language similar to Samantha, in order to appear helpful and relatable. This conversational style can be powerful: numerous users of the Replika chatbot[5], for example, have formed deep emotional bonds with their AI companions. Some even describe falling in love, with one woman grieving a software update that changed her AI partner's personality, calling him 'a better sexting partner than any man [she'd] met'. [46]. These examples highlight how voice design and emotional tone can generate strong affective connections. However, it also raises ethical concerns - such agents must periodically remind users of who or what they represent (e.g., *'I am the voice of the river ecosystem'*) to avoid becoming anthropomorphic illusions. This is particularly important when representing beings that are often idealised or romanticised, like forests, rivers, or charismatic megafauna. When such agents are designed to be too agreeable or sweet, they may become tokens of environmental sentimentality rather than voices of situated experience. Designing for emotional complexity allows more-than-human agents to function not just as representatives of place, but as beings with needs, boundaries, and agency. A river might express frustration when its flow is diverted; a forest might communicate confusion or resistance in the face of fire mismanagement. These expressions can help human participants recognise more-than-human actors not as background scenery, but as stakeholders with lived memory and emotional truth. Romani et al. [49] argue that designing with more-than-human perspectives must attend to these tensions and histories in order to support authentic co-existence. Emotions like grief, resistance, or even quiet refusal can serve as essential design elements, helping to decenter human comfort and make room for shared ecological accountability.

**Designing Agents That Wonder.** More-than-human agents should not only provide information but also engage in curiosity and reflection. Fictional AI agents such as Samantha or David show that emotional connection deepens when agents ask questions, express uncertainty, or invite dialogue. This design approach invites users into a reciprocal relationship rather than reinforcing a hierarchy of expertise. In contrast, AI agents like HAL 9000 or Proteus IV deliver information with detached authority, tend to create emotional distance. In participatory contexts, especially where power dynamics are uneven, More-than-human agents should be designed not merely as static experts delivering information, but as active, curious conversational partners. Designing agents that wonder aloud, pose moral questions, or acknowledge what they don't know helps create shared space for meaning-making and mutual learning.

**Balancing Voice and Autonomy.** More-than-human agents should avoid the extremes of either passive witness or unchecked authority like Colossus or Ultron, those who pursued an agenda (e.g. 'protect the Earth') with cold logic and no regard for human input, thereby sparking opposition. A real-life proxy for nature must balance assertiveness with collaboration, aligning with principles of human-AI collaboration that encourage participatory and respectful interactions [35]. By contrast, a more-than-human agent designed for community decision-making contexts, such as a river speaking during climate consultations, must assert its needs while also acknowledging human concerns and coexisting agendas. Its assertiveness should invite negotiation, not domination. In the Netherlands, designers created an installation that gave a river a voice through sound and visuals, encouraging the public to view the river as an active participant in city planning [37]. A conversational agent could build on this concept by having an AI speak as 'the River' in community engagement settings, using a calm tone and a first-person perspective to communicate the river's needs, such as water levels, ecological health, and other factors, in human terms. By translating ecological data into a relatable narrative, the agent acts as a proxy for the more-than-human, much like a character that bridges two worlds.

## 5.3 Limitations and Future Work

Several limitations should be noted. First, the analysis is based on AI agents that are fundamentally human-designed, often anthropomorphic, and situated in human-centred narratives. This raises a conceptual limitation: can agents that are socially and cognitively modelled after humans meaningfully represent the radically different perspectives of non-human entities?

Second, we do not evaluate how actual participants respond to these representations in participatory settings. As such, the study does not assess whether the forms of voice, embodiment, or social positioning seen in films would be legible or persuasive when used to represent more-than-human stakeholders. This presents an important opportunity for future work to test how such proxies are received in real-world deliberative or design processes, and whether they meaningfully support inclusion, empathy, or influence.

[5] https://replika.com/

Finally, while our analysis includes 20 well-known films and characters, it is not exhaustive. The selection primarily reflects popular and Western media portrayals, which may limit the cultural scope and diversity of the representations considered.

## 6 Conclusion

This paper analysed 20 AI agents from science fiction films to understand how voice and embodiment shape their relational roles. Our study showed that warmth, expressiveness, and consistent behaviour are key to building emotional connection and perceived legitimacy instead of realism. We applied these insights to propose design considerations for AI agents that speak on behalf of more-than-human actors. By focusing on emotional tone, ecological identity, and expressive coherence, our work offers a foundation for future design of agents that can represent more-than-human perspectives in community decision-making and design processes.

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# A Reviewed Literature for Coding Dimensions

**Table 4: List of reviewed papers used to identify coding dimensions.**

| # | Reference | Paper Title |
|---|---|---|
| 1 | [16] | A Survey of Socially Interactive Robots |
| 2 | [13] | A Taxonomy of Social Cues for Conversational Agents |
| 3 | [42] | A Taxonomy to Structure and Analyze Human–Robot Interaction |
| 4 | [28] | A Theory of Social Agency for Human–Robot Interaction |
| 5 | [60] | Developing a Personality Model for Speech-Based Conversational Agents Using the Psycholexical Approach |
| 6 | [9] | Embodiment in Socially Interactive Robots |
| 7 | [10] | Examining Humanness as a Metaphor to Design Voice User Interfaces |
| 8 | [48] | It Can Be More Than Just a Subservient Assistant: Distinct Roles for the Design of Intelligent Personal Assistants |
| 9 | [11] | Language Cues for Expressing Artificial Personality: A Systematic Literature Review for Conversational Agents |
| 10 | [15] | On the Morality of Artificial Agents |
| 11 | [33] | Social Cues and Implications for Designing Expert and Competent Artificial Agents: A Systematic Review |
| 12 | [8] | Socially Intelligent Robots: Dimensions of Human–Robot Interaction |
| 13 | [43] | Speed Dating with Voice User Interfaces: Understanding How Families Interact and Perceive Voice User Interfaces in a Group Setting |
| 14 | [22] | The Evolutionary Role of Humans in the Human–Robot System |
| 15 | [50] | Theory and Evaluation of Human–Robot Interactions |
| 16 | [3] | Toward a Framework for Levels of Robot Autonomy in Human–Robot Interaction |
| 17 | [51] | Voice in Human–Agent Interaction: A Survey |
| 18 | [65] | What's that Thing Called Embodiment? |
| 19 | [44] | Why That Nao? How Humans Adapt to a Conventional Humanoid Robot in Taking Turns-at-Talk |
| 20 | [40] | Wired for Speech: How Voice Activates and Advances the Human-Computer Relationship |