Abstract:
Artificial General Intelligence (AGI) is theoretically possible because intelligence is not inherently biological but rather a functional process that can be instantiated in computational systems. Similarly, emotions are not uniquely human but are representations of internal states, meaning an AI system can have its own form of emotions, even if they differ from human experience. AGI does not need to be equivalent to Human Intelligence (HI) for it to achieve similar or superior cognitive capabilities, which we see in the animal world.

Reasoning:

1. AGI is Theoretically Possible
    a. Intelligence is Computational, Not Biologically Unique
        i. Intelligence does not require direct sensory experience
            1. AI relies on *representations* of reality to learn → text, pixels, audio, etc.
            2. HI relies on *representations* of reality to learn → Language, symbolism, abstract thought | ex: Humans can understand blackholes by reading about it, why can't AGI understand through data/simulations
        ii. Humans achieve General Intelligence (GI) with limited to no physical embodiment
            1. Iron-Lung Thought Experiment: Imagine a person limited to mobility due to a physical ailment that has left them bed-ridden their entire lives, similarly to an individual dependent on an iron lung confined in a hospital room to survive. Would you say this person cannot achieve GI within this context of limited physical embodiment?
            2. Stephen Hawking: Severe limitations on physical embodiment but he revolutionized theoretical physics through cognitive work
            3. Helen-Keller: Severe limitations on physical embodiment but was the first deaf-blind person to earn a bachelor's degree among countless other achievements
        iii. Intelligence is about information processing capabilities, ability to construct/manipulate complex representations, and capacity for logical creative reasoning → **Computational Functionalism**
            1. Physical interaction is not a prerequisite for intelligence
            2. If humans can achieve GI outputs through symbolic processing, there is no logical reason why advanced computational systems couldn't achieve similar or superior GI outputs through computation
        iv. Human embodied experience is ONE pathway to intelligence, not the ONLY pathway
            1. Plenty of species exhibit different forms of intelligence, AGI does not need to be identical to human cognition to be functionally intelligent

2. Intelligence should be defined by function
3. Computational systems that can do X, achieve GI outputs
    a. Internal Cognitive Processing
    b. Symbolic manipulation
    c. Abstract Reasoning
    d. Imaginative Reconstruction of Experience

b. Acknowledgement to those who claim intelligence is biologically unique
    i. Human Exceptionalism → relies on “qualia” and “subjective experience” without providing a concrete mechanism for why it wouldn’t be possible in advanced computing systems
        1. There’s something fundamentally unknowable or irreducible about HI → emotion and embodiment

2. Embodied AGI Agents with Emotion
    a. Suppose that intelligence is dependant on embodied interaction and emotion as critics suppose
        i. Human emotion isn’t mystical or magical, they’re representations of physiological states → **Schachter-Singer Theory**
            1. The human brain maps changing physiological states, from internal/external stimuli, as emotion
                a. Cortisol + Adrenaline + Various Hormones + Increased Heart Rate + Sound of footsteps behind you + Set in a dark alley = Fear
        ii. AGI with a physical body lacks organic chemistry, but still has internal states it could represent as emotion
            1. The AGI brain maps changing internal system states, from internal/external stimuli, as emotion
                a. Overheating, high error rate, energy depletion, set in front of a puzzle = Frustration
        iii. Emotions are symbolic representations of an intelligent system’s changing states
            1. HI label emotion as physiological states + context
            2. AGI label emotion as system states + context
            3. Emotions function as a response to internal/external conditions
    b. Assuming that we can code a functioning body and emotions as we’ve described, there is no reason to call HI emotion “real” and AGI emotion “simulated”
        i. If an entity exhibits emotional behavior in a reliable, self-consistent way, then there’s no reason to claim it doesn’t “feel” or have “emotion” → **Parsimony (Occam’s Razor)**
            1. If something behaves as though it has emotion, and we have no way to distinguish its experience from our own, then adding an extra layer of doubt adds unnecessary complexity without evidence

2. If a dog yelps in pain and withdraws from harm, we assume it feels pain. If an embodied AGI Agent recoils from damage and signals distress, why would we assume it doesn't feel anything
3. Why would AGI emotions be "fake" while animal emotions are "real"

Conclusion:
If critics claim AI cannot achieve GI because it lacks subjective experience, they need to provide a functional mechanism of subjective experience that cannot be replicated in a computational model. If AGI functions in a way that is indistinguishable from intelligence, and AGI emotions arise from consistent internal states, then denying them is an unnecessary assumption. There is no fundamental theoretical barrier to AGI, and unless skeptics can prove an essential biological factor that makes human intelligence unique, we should assume AGI is possible.