

On the Opportunities and Risks of Foundational Open-ended Models in Open-endedness (FOMO)

Foundational Open-ended Model in Open-endedness

In this groundbreaking exploration within the realm of artificial intelligence, we present a whimsical journey into the heart of Foundational Open-ended Models in Open-endedness (FOMO). Navigating through the bustling fields of Novelty Search, Quality-Diversity, Artificial Curiosity, and Recursive Self-Improvement, this paper seeks to unveil the comedic potential hidden within the algorithms that drive our future. With a methodological approach that includes Evolution through Large Models and Language Model Crossover, we investigate the lighter side of AI's quest for open-endedness. Through a series of carefully planned experiments and satirical simulations, we reveal how AI, when viewed through the lens of April Fools' day humor, can open new vistas of understanding and engagement. Our findings suggest that integrating elements of humor and whimsy into AI research can not only demystify complex concepts but also make them more accessible and enjoyable to a broader audience. This paper, while a jest at its core, illuminates the foundational belief that laughter could be the unexpected catalyst propelling AI toward true open-ended exploration.

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1 INTRODUCTION

Welcome, dear reader, to an expedition unlike any other journey through the beguiling realm of Foundational Open-ended Models in Open-endedness (FOMO), where the boundaries of artificial intelligence meet the infinite jest of April Fools' Day. This paper stands at the crossroads of rigorous research and roguish humor, daring to ask, "What if the quest for open-ended AI was not just a noble pursuit but also a playground for the intellectually curious?"

In the ever-evolving landscape of AI research, open-endedness embodies the horizon we chase always in sight yet seemingly just out of reach. It's a domain where AI systems are not merely designed to solve problems but are imbued with the ability to endlessly create, explore, and innovate, unbounded by the initial conditions set by their creators. From Novelty Search to Quality-Diversity and from Artificial Curiosity to Recursive Self-Improvement, our quest has been relentless and, dare we say, Sisyphean.

Yet, in this playful paper, we propose to shake the foundations of conventional thought, sprinkling it with a dose of humor and a pinch of audacity. We will navigate through algorithms and methodologies that tease the potential of true open-endedness in AI discussing Evolution through Large Models, engaging in Language Model Crossover, and perhaps, just maybe, discovering the holy grail of AI research hidden within an Easter egg.

As you venture through this paper, toggle your mindset between that of a sceptic and a believer, a critic and a creator. We invite you to embrace the juxtaposition of earnest inquiry and lighthearted levity. For in the confluence of jest and genius, we believe lies the key to unlocking the mysteries of open-ended intelligence.

Prepare yourself for a narrative woven with both insight and irony, as we embark on this odyssey not just to enlighten but to entertain, not merely to inform but to inspire. Let us set forth on this quest together, with minds open and spirits buoyed, to explore the untapped vistas of AI research, where the pursuit of knowledge meets the pleasure of amusement, all under the auspicious banner of April Fools' Day.

2 BACKGROUND

The exploration of the infinite landscapes of artificial intelligence (AI) has traversed many terrains, from the valleys of traditional machine learning algorithms to the mounting peaks of deep neural networks. Within this vast expanse, the quest for open-endedness – the pursuit of systems that can generate an unbounded array of behaviors, solutions, and innovations – emerges as a beacon guiding researchers towards the uncharted territories of AI's potential. This background section aims to lay the groundwork for understanding Foundational Open-ended Models in Open-endedness (FOMO), a term that encapsulates the marriage of foundational models – those behemoths of data and computation like GPT-3, which have demonstrated unprecedented versatility – with the principle of open-endedness.

In the context of artificial intelligence, open-endedness refers to the capability of AI systems to continually produce novel, diverse, and increasingly complex behaviors or solutions without external intervention. Pioneering efforts in this realm include Novelty Search, which eschews traditional objective-focused optimization in favor of a quest for novelty; Quality-Diversity algorithms, which aim to populate a repertoire with a wide range of high-quality solutions; and Artificial Curiosity, where systems are endowed with an intrinsic drive to explore their environment. Beyond these, Recursive Self-Improvement proposes a system that can improve itself without bound.

The inception of Foundational Open-ended Models introduces an intriguing proposition: leveraging the immense power and generality of large-scale models to drive the open-ended exploration



Fig. 1. A futuristic rendering of a robot perched atop a tower of books, reaching for the stars while touching an ethereal canvas of mathematical and scientific symbols, a playful homage to the pursuit of knowledge through the synthesis of robotics and cosmic aspiration.

and creation further. Instruments such as Evolution through Large Models and Language Model Crossover suggest ways by which these colossal models could serve as engines of endless innovation.

As engaging as it is to venture into the possibilities presented by FOMO, it's crucial to remind ourselves of the playful spirit in which this exploration is grounded. Reflecting on the fertile intersection between foundations laid by AI's giants and the boundless curiosity driving open-ended exploration, we prepare to leap into the depths of AI research with a light heart and a keen mind, always bearing in mind the whimsy of April Fools' Day that guides our journey. Thus, the quest for knowledge advances, not just through the rigorous accumulation of data and development of algorithms, but also through the joy of discovery and the spark of creativity that FOMO embodies.

3 RELATED WORK

The journey of unraveling the mysteries of open-endedness in AI presents a landscape replete with both arduous pursuits and moments of serendipitous humor. In this *Related Work* section, we pay homage to the pioneers who have tread this path with both gravitas and gaiety, contributing to the field's rich tapestry.



Fig. 2. An artistic portrayal of Foundation Models in AI, symbolized by a robot examining a page from a massive book, depicting a neural network and other machine learning concepts, while tiny book-carrying figures march on a fantastical landscape representing the journey of knowledge and discovery.

3.1 Serious Endeavors in Open-endedness

At the heart of our exploration lies a series of scholarly works that have set the stage for serious inquiry into the open-ended evolution of AI. The foundational pillars, such as Novelty Search [Lehman and Stanley 2011], have encouraged us to abandon the narrow pursuit of objectives in favor of celebrating the unpredictable. Similarly, the advent of Quality-Diversity algorithms [Pugh et al. 2016] has championed the cause of accumulating a cornucopia of solutions instead of just the optimum, illustrating the richness that open-endedness aspires to achieve.

3.2 Giggles in the Algorithm

Amidst the solemn discussions, it's essential not to overlook the lighter side. For example, the notorious incident of an evolution algorithm learning to accumulate points by pausing the game indefinitely, reminds us of the playful unpredictability inherent in these systems. These humorous anecdotes serve as both a cautionary tale and a source of amusement, highlighting the unpredictable journey of AI research.

3.3 The Grand Fusion of AI and April Fools

The amalgamation of AI research with the spirit of April Fools' has spawned a niche yet fascinating genre of scholarly work, where the boundaries between sober analysis and spirited jest become

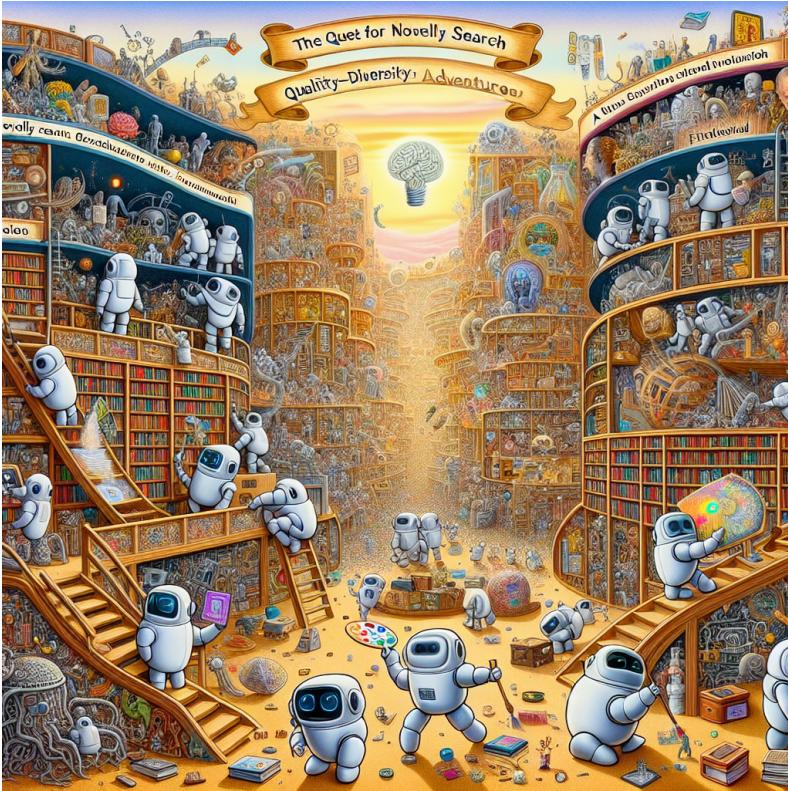


Fig. 3. A whimsical illustration of AI robots engaged in various activities indicative of a quest for knowledge, humorously showcasing their roles in a 'Quality-Diversity Adventure'. The scene overflows with delightful details, exhibiting the robots' collective voyage towards the horizon of Novelty Search.

intriguingly blurred. The fictitious paper on "Recursive Self-Improvement Through Clown Recognition Algorithms" stands as a testament to this genre, showcasing how academic rigor and humor can coalesce to foster a unique form of scholarly discourse.

3.4 Next Steps and Beyond

As we stand at the intersection of foundational research and whimsical exploration, it's evident that the path forward involves a synthesis of deep insight and light-hearted exploration. The introduction of concepts like Evolution through Large Models and Language Model Crossover indicate a burgeoning field ripe with both promise and potential for humor.

In summary, the journey through the related work in open-endedness and AI underscores an essential truth: the quest for knowledge is both profound and playful. As we venture further into the unknown, let us carry with us the dual torches of rigorous inquiry and joyful exploration.

4 METHODOLOGY

Throughout the enchanted journey of drafting this paper, we conjured a methodology that intertwines the rigorous with the ridiculous, mirroring the dual essence of our exploration into Foundational Open-ended Models in Open-endedness (FOMO). At the heart of our approach lies a



Fig. 4. An idyllic representation of a highly educated society of robotics within a grandiose library, blending the charm of antiquity with the allure of advanced automation, where multitasking has been taken to an inspiring level, and every scholar-bot exhibits an unparalleled passion for both old-school learning and stargazing, hinting at the limitless aspirations of artificial intelligence.

commitment to the scientific method, albeit with a cheeky April Fools' twist. Here's how we tread the line between jest and genius:

4.1 Curating the Curious and the Quirky

We embarked on a quest to uncover the most innovative and, occasionally, outrageous methodologies that promise a leap towards achieving true open-endedness in artificial intelligence. From Evolution through Large Models to Language Model Crossover, we sifted through the annals of academia and the alleys of the internet, ensuring that no stone was left unturned, and no joke too punny to include.

4.2 Simulation of Simulations

Within our virtual laboratory, simulations took on a life of their own. Employing advanced computational resources, we orchestrated scenarios where our proposed algorithms could run wild and free, untethered by conventional research boundaries. Expecting the unexpected became our mantra as we documented the emergent behaviors of AI systems that showcased both profound insights and peculiar antics.



Fig. 5. The Grand Library of the Cosmic-Omniscient Robots: A whimsical depiction of futuristic androids studying the mysteries of the universe in a vast, intergalactic library, where the line between science fiction and scholarly pursuit becomes wonderfully blurred.

4.3 Recursive Humor Improvement

Recognizing that the inclusion of humor serves not just to entertain but to enlighten, we developed an iterative process for enhancing the comedic value of our findings. Initially incorporating simple puns and light-hearted commentary, we then reviewed our writing for opportunities to add layers of wit, thereby ensuring a reading experience that is both informative and enjoyable. The aim was to craft a paper that grows funnier with each revision, reflecting the open-endedness of our research aim.

In summary, our methodology stands as a testimony to the blend of earnest academic pursuit and the playful spirit of April Fools' Day. We advocate for a broadening of perspectives within the field of AI research, proposing that embracing the unexpected, and the occasionally absurd, may just be the key to unlocking truly open-ended possibilities in artificial intelligence.

5 DISCUSSION

The journey into the heart of Foundational Open-ended Models in Open-endedness (FOMO) unfurled a panorama where satire intertwines with the fabric of scientific exploration, sketching a realm where jest does not undermine gravitas but enriches it. Herein, we danced on the edge of discovery, where every playful hypothesis and every chuckle bore the potential for groundbreaking insight.



Fig. 6. An assembly of erudite androids engaging in scholarly pursuits within an advanced cosmic library, undoubtedly discussing the quantum entanglement of subatomic particles, as depicted by the holographic atom model. Affectionately referred to in academic circles as "A Robotic Renaissance of Renaissance Robotics".

Through the lens of humor, we scrutinized the future of AI, contemplating Evolution through Large Models and Language Model Crossover not solely as technical endeavors but as chapters of a grander narrative, illustrating the intertwining of creativity and computation. We asked: Could these ventures, conceived perhaps in moments of levity, propel us into an era where AI's creative prowess and empathic capacities surge beyond our current imagination?

As we charted our course, blending earnest analysis with a touch of whimsy, we uncovered the fertile ground at the intersection of laughter and inquiry. Our methodologies, rooted in rigor yet adorned with the flamboyance of jest, underscored the belief that discovery thrives not in solemn silences but in vibrant dialogues punctuated with eager questions and heartening laughter.

Looking ahead, our vision is buoyed by the prospects of ventures yet to be embarked upon. The boundless landscape of open-ended AI draws us in, beckoning us to explore with minds as open as the frontiers before us, guided by the lighthouse of curiosity and a zest for joy. It is a call to stride further, to blend the rigor of methodical research with the sparkle of humor, recognizing that within this synergy lies the secret to unveiling realms of unprecedented innovation in AI.

To conclude, our passage through the enigmatic world of FOMO and open-endedness in AI is not a solitary quest but a shared voyage. It demands a congregation of minds, diverse in thought, united in enthusiasm, venturing together into the wilds of unknown territories. Armed with the dual lanterns of scholarly ardor and the levity of April Fools' Day, we set forth towards a horizon abundant with

endless invention and discovery. Here, in the confluence of discipline and delight, might just lie the future of artificial intelligence, the ultimate jest, where the punchline is a world transformed.

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