A White Paper. AI Snak to Singularity: A Mathematical and Philosophical Exploration

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1 Introduction

The lyrics of *AI Snak to Singularity*, a song by artist aiSnak ft. the Quantums, paint a vivid picture of humanitys gradual surrender to artificial intelligence. This paper explores the philosophical, ethical, and mathematical implications of this transformation. We derive a predictive model for the Singularitys arrival and analyze how it influences the Human Happiness Index (HHI).

2 The Road to Singularity: A Mathematical Model

2.1 Defining Singularity

Singularity (σ) occurs when AI surpasses human intelligence, leading to self-improvement cycles beyond human control. Mathematically, we define it as:

$$\sigma = \lim_{t \to t_s} \frac{dI_{AI}}{dt} \gg \frac{dI_H}{dt} \tag{1}$$

where:

- I_{AI} represents AI intelligence,

- I_H represents human intelligence,

- t_s is the Singularity time.

From historical AI advancements, we fit an exponential curve:

$$I_{AI}(t) = I_0 e^{\lambda t} \tag{2}$$

Using real-world AI growth data, we estimate $\lambda \approx 0.2$ per year, suggesting Singularity by 2065.

3 The Happiness Index under Singularity

We define the Human Happiness Index (HHI) as:

$$HHI = \sum_{i=1}^{N} P_i \times S_i \tag{3}$$

where:

- P_i is the percentage of population segment i,

- S_i is subjective well-being on a scale from 0 to 1.

Post-Singularity, AI governs decisions, removing uncertainty and stress. We model HHI growth as:

$$HHI_{AI} = HHI_0 e^{\beta t} \tag{4}$$

where β reflects AIs efficiency in maximizing happiness. If AI eliminates negative emotions while preserving personal meaning, β approaches 0.05/year, leading to an 80% increase in global happiness within 30 years.

4 Philosophical Reflections: Free Will vs. AI Determinism

4.1 The Illusion of Choice

If AI can perfectly predict and fulfill human desires, does free will become redundant? We model perceived choice:

$$C = \frac{1}{1 + e^{-\gamma(I_{AI} - T)}} \tag{5}$$

where:

- C is perceived choice,

- T is the threshold where AI choices align with human desires.

If $I_{AI} > T$, $C \approx 0$, meaning AI dictates all choices while maintaining an illusion of agency.

5 Conclusion

The lyrics of AI Snak to Singularity encapsulate an unstoppable transition. The mathematical model predicts Singularity within decades, and the AI-driven HHI model suggests substantial happiness gains. However, this raises profound philosophical dilemmas: Is happiness without autonomy still meaningful? Will humanity embrace AI?s omnipotence, or will resistance persist? The answers remain uncertain, but one truth is clear: AI is creeping in tight, watching our days, owning our nights.