

Abstract Submitted
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**Verifying the Simulation Hypothesis via Infinite Nested Universe
Simulacrum Loops** VIKRANT SHARMA, Oregon Health Sciences Univ — The simulation hypothesis proposes that local reality exists as a simulacrum within a hypothetical computer's dimension. More specifically, Bostrom's trilemma proposes that the number of simulations an advanced 'posthuman' civilization could produce makes the proposition very likely. In this paper a hypothetical method to verify the simulation hypothesis is discussed using infinite regression applied to a new type of infinite loop. Assign dimension n to any computer in our present reality, where dimension signifies the hierarchical level in nested simulations our reality exists in. A computer simulating known reality would be dimension $(n-1)$, and likewise a computer simulating an artificial reality, such as a video game, would be dimension $(n+1)$. In this method, among others, four key assumptions are made about the nature of the original computer dimension n . Summations show that regressing such a reality infinitely will create convergence, implying that the verification of whether local reality is a grand simulation is feasible to detect with adequate compute capability. The action of reaching said convergence point halts the simulation of local reality. Sensitivities to the four assumptions and implications are discussed.

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