A Mathematical Framework for Modeling Consciousness

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This theorem proposes a mathematical model of consciousness based on three foundational principles: Bayesian inference for probabilistic reasoning, fuzzy logic for handling vagueness and ambiguity, and an equation for time. This theorem exemplifies consciousness as the ability for the brain to change when a threat is present.

This consists of five steps:
Step One– Bayesian Inference One
Step Two– Fuzzy Logic
Step Three– Activation
Step Four– Bayesian Inference Two
Step Five– Conscious Transformation

Step Three only executes if the fuzzy logic concludes that there is a real threat– activation of Glutamate.
Step Four only executes if the time the threat is present is equal to or more than 5400 seconds.

$$f(t) = \begin{cases} 2 & \text{if } 3600 \leq t < 5400, \\ 1 & \text{if } t \geq 5400, \\ 0 & \text{if } t < 3600. \end{cases}$$

Step Four uses Bayesian Inference again:
P(H) = μHigh(P) from Step Two
P(E|H) = Dependent on stimuli
P(E|¬H) = μLow(P) from Step Two

Step Five executes if P(H|E) > 0.80, meaning the individual has gone through a conscious transformation