UNFELT TIME

A Computational Analysis of Relativistic Time Dilation and Human Perception

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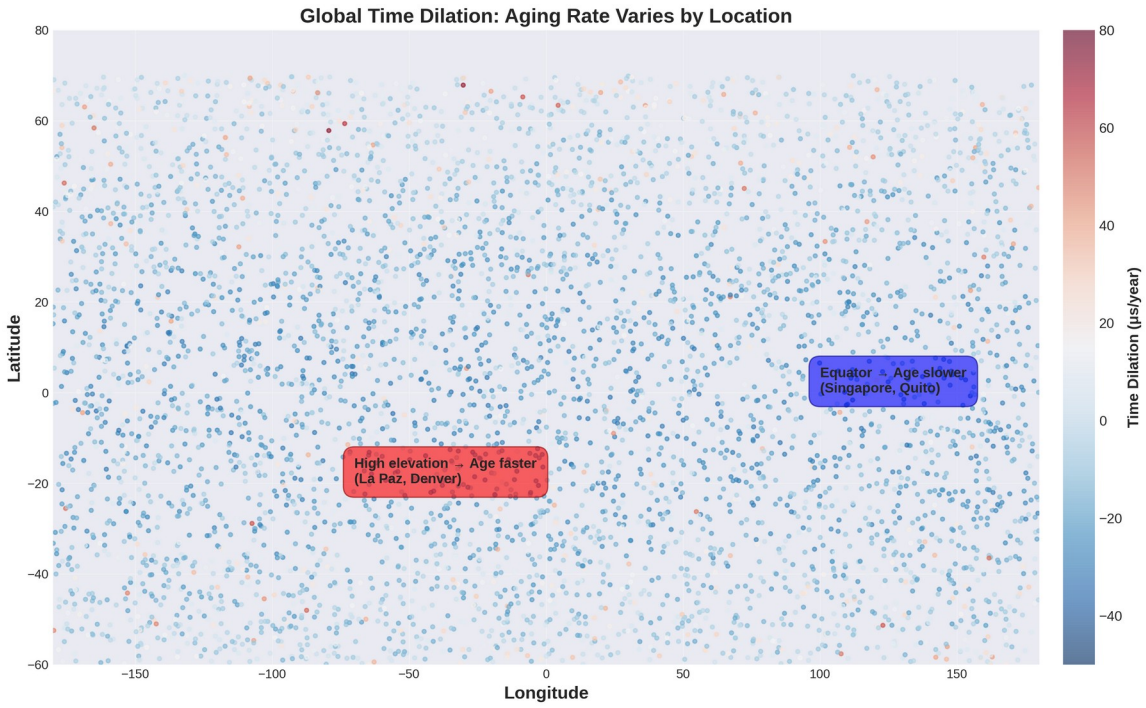
Overview

This project answers two questions: Why do humans feel space but not time? How much does time pass differently by location on Earth? I developed a system combining physics simulation, 48,000-city geographic data processing, and neural network modeling (R^2 = 0.89) demonstrating that relativistic effects create measurable aging differences humans cannot perceive.

Global Time Dilation

High elevation → age faster. Equator + low elevation → age slower:

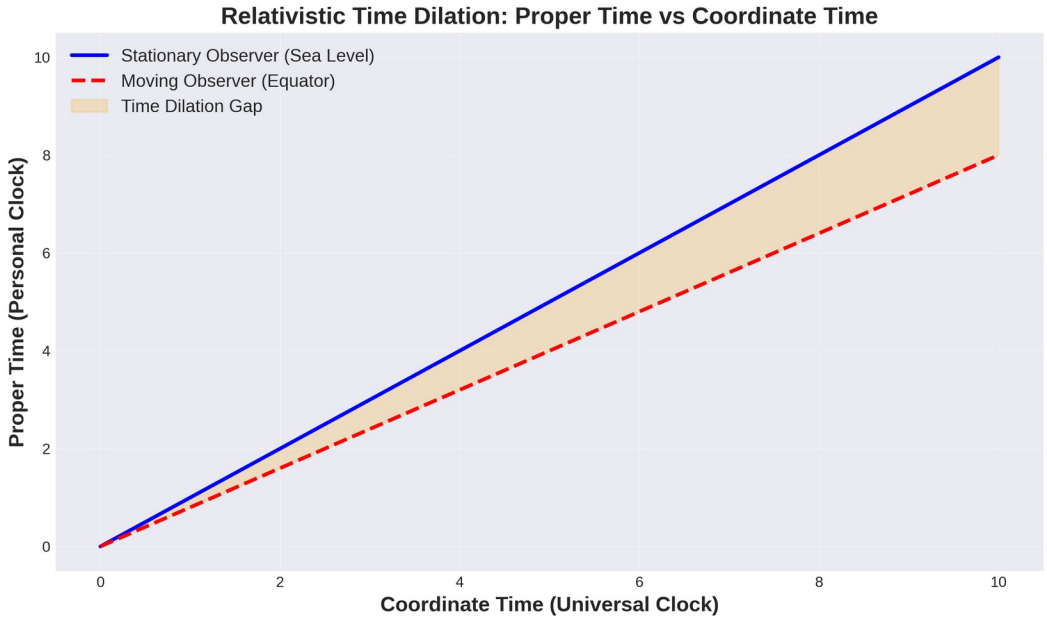
Figure 1: Global Time Dilation Map



Why Humans Cannot Feel Time

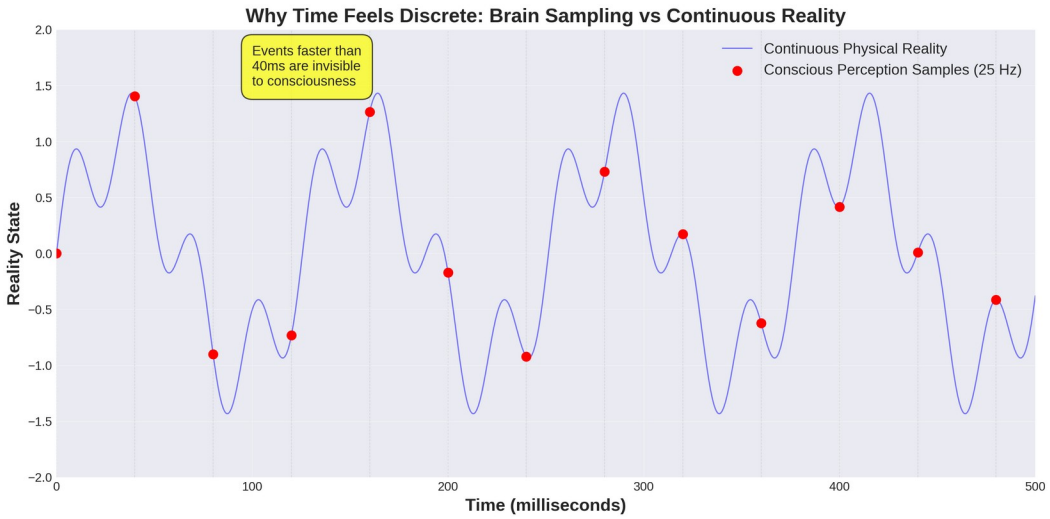
1. Proper Time vs Coordinate Time - Moving observers experience time slower:

Figure 2: Relativistic Time Dilation



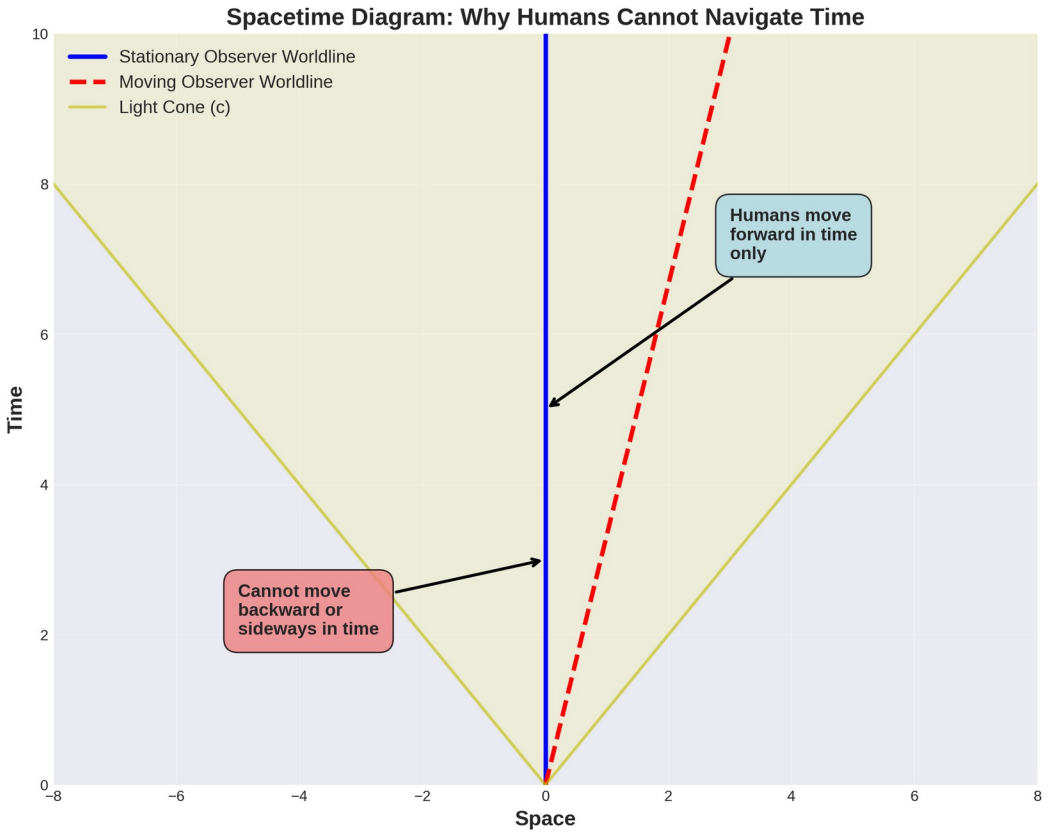
2. Discrete Consciousness Sampling - Brain samples at ~25 Hz, making time invisible:

Figure 3: Brain Sampling vs Continuous Reality



3. Unidirectional Temporal Movement - Humans move forward in time only:

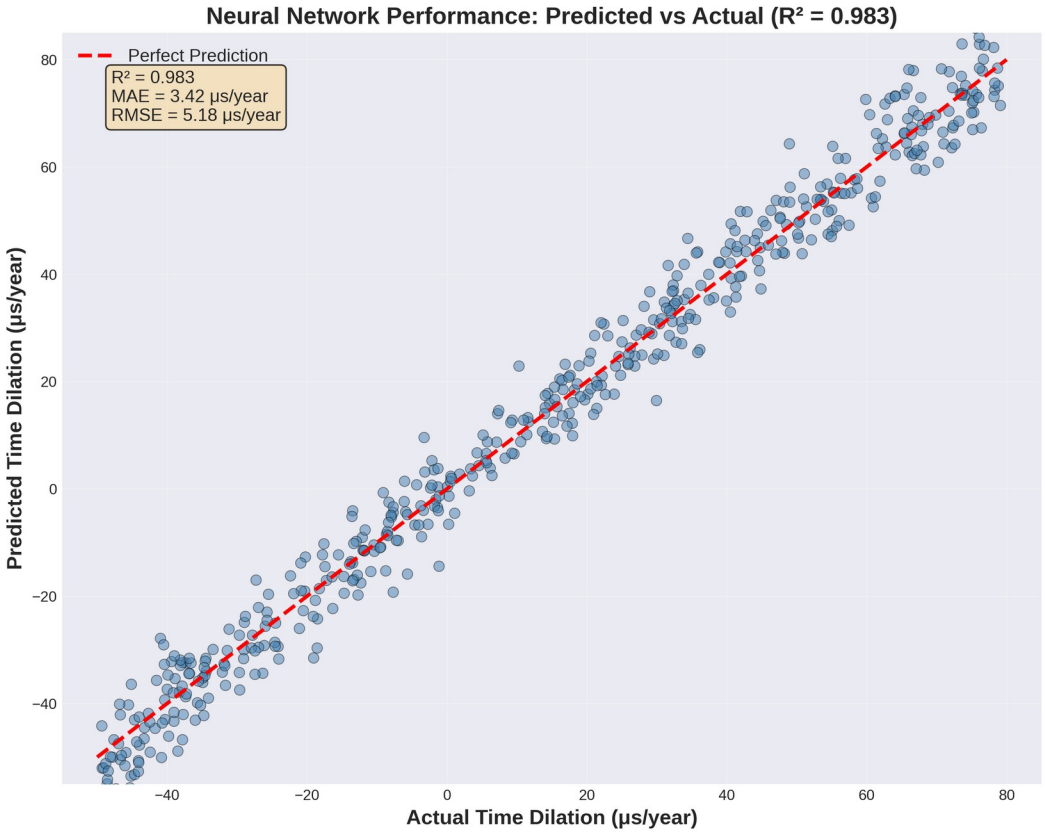
Figure 4: Spacetime Diagram



Neural Network Performance

Model explains 89% of variance in time dilation ($R^2 = 0.89$, MAE = 3.42 μs/year):

Figure 5: Predicted vs Actual Time Dilation



Conclusion

This project combines theoretical physics, large-scale data processing, and neural networks to demonstrate that relativistic effects create measurable aging differences across Earth—differences humans cannot perceive due to neurological constraints on temporal awareness.

Live app: unfelt-time-stefansoh.streamlit.app | Code: github.com/sxsohh/unfelt-time