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Applying Emerging Deep Learning Techniques to General Relativity

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In this paper, we present a novel approach to studying General Relativity and Gravitational Waves using emerging deep learning techniques. We begin by providing a brief introduction to the basics of General Relativity and Gravitational Waves, highlighting their importance in understanding the universe. We then introduce the concept of Physics-Informed Neural Networks (PINNs) and demonstrate how they can be applied to the Schrödinger equation. We show that PINNs are able to accurately solve this equation with just 10 training points, a task that traditional machine learning methods are not able to accomplish. Our results demonstrate the effectiveness of PINNs in solving complex mathematical equations and have implications for further research in the field of General Relativity and Gravitational Waves.

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