

ABSTRACT

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REN'PY GAME DEVELOPMENT WITH THE IMPLEMENTATION OF GAN AND VAE ALGORITHMS ON VIRTUAL ASSET FEATURES

Abstract

This final project explores the use of Generative Adversarial Networks (GAN) and Variational Autoencoders (VAE) algorithms to produce AI-based art assets in the development of the Ren'Py game entitled EcoAct: All Heroes Start Small. The game is a choice-based narrative that combines Visual Novel elements with environmental education, encouraging players to make environmentally conscious decisions. GAN and VAE are used to create character designs, background art, and CG scenes, which reduces development costs while improving the game's visual quality. This Final Project highlights the integration of art produced by Opensourced AI Art into game development, showing how AI can be used to support sustainability efforts in both educational content and game development. This research also investigates methods of integrating AI-generated assets within the Ren'Py framework, focusing on the technical aspects of asset integration and optimization for interactive media.

Keywords: GAN, VAE, Opensourced AI, Ren'Py, Environmental Education, Game Development