Digital Salon: An AI and Physics-Driven Tool for 3D Hair Grooming and Simulation

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1 Abstract

We introduce Digital Salon, a novel approach to 3D hair grooming and simulation by integrating advanced AI and physics-based algorithms. This tool enables users to create detailed hairstyles through natural language descriptions, seamlessly blending text-driven hair generation, interactive editing, and high-fidelity rendering within a cohesive workflow. With its innovative real-time simulation capabilities, Digital Salon supports dynamic hair interactions, accommodating 10,000 to 80,000 strands, thus making sophisticated hair design accessible to a wide range of users. This tool significantly enhances the creative process in digital media by providing an intuitive, versatile, and efficient solution for hair modeling and animation.

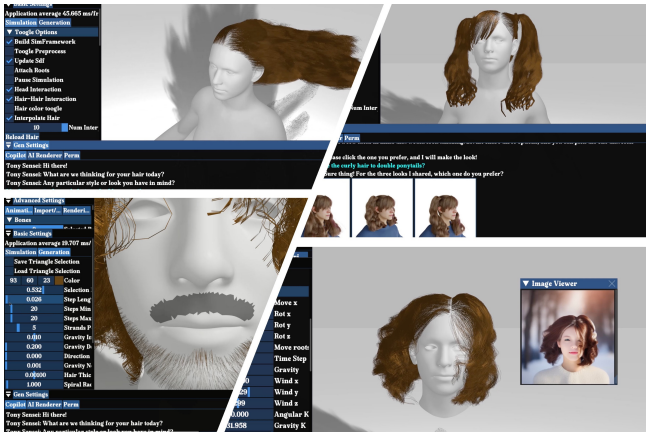

Figure 1: Digital Salon: An AI and Physics-Driven Tool for 3D Hair Grooming and Simulation

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