Fine-tuned Stable Diffusion to produce marketing images of hypothetical consumer products

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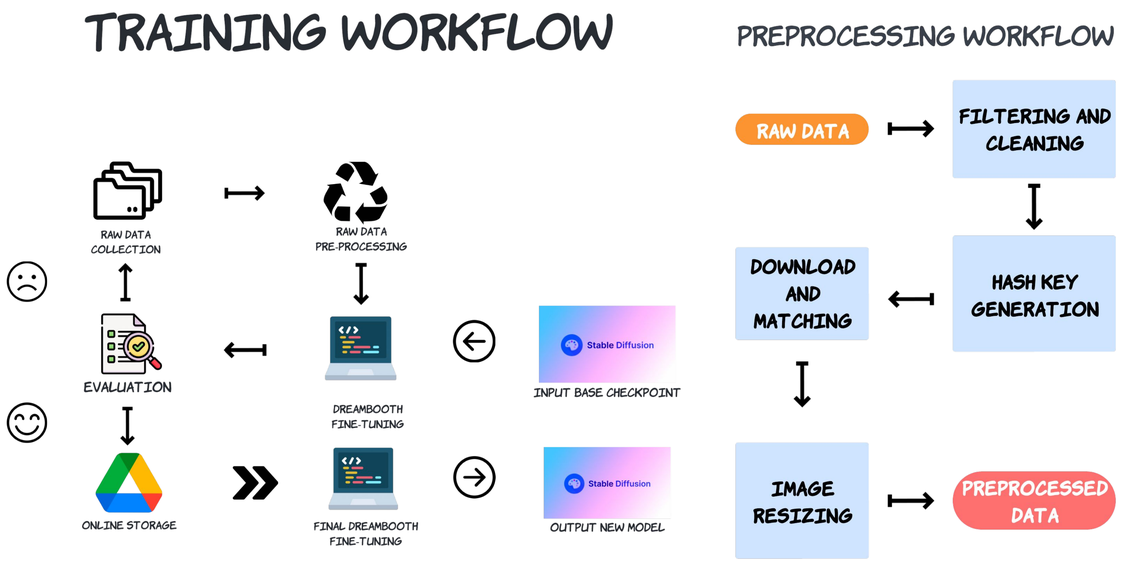
Abstraction and Background

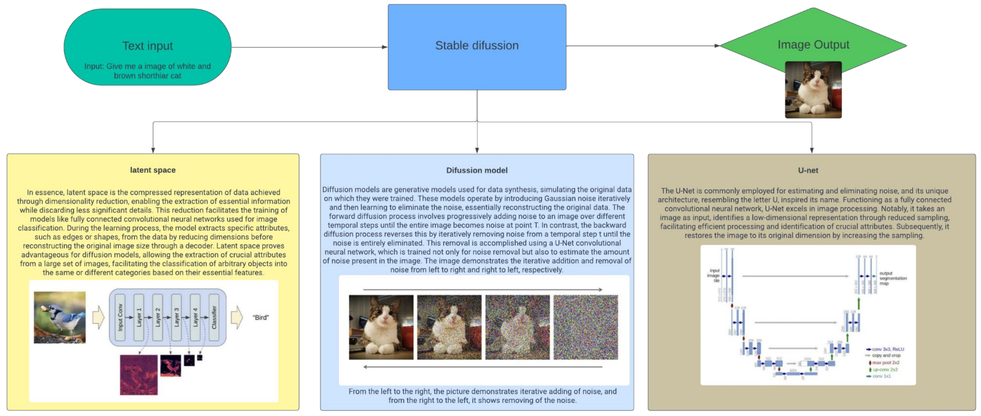
With the evolution of text2image Generative AI, Stable Diffusions pioneers a transformative approach to crafting captivating visuals. However, rightnow this cutting-edge technology only stay in research stage, which has enormous industry potential. Cooperated with Unilever, our team tried to find out whether we can solve industry task with Stable Diffusion and relevant algorithms.

Training Workflow & Data Preprocessing Workflow:

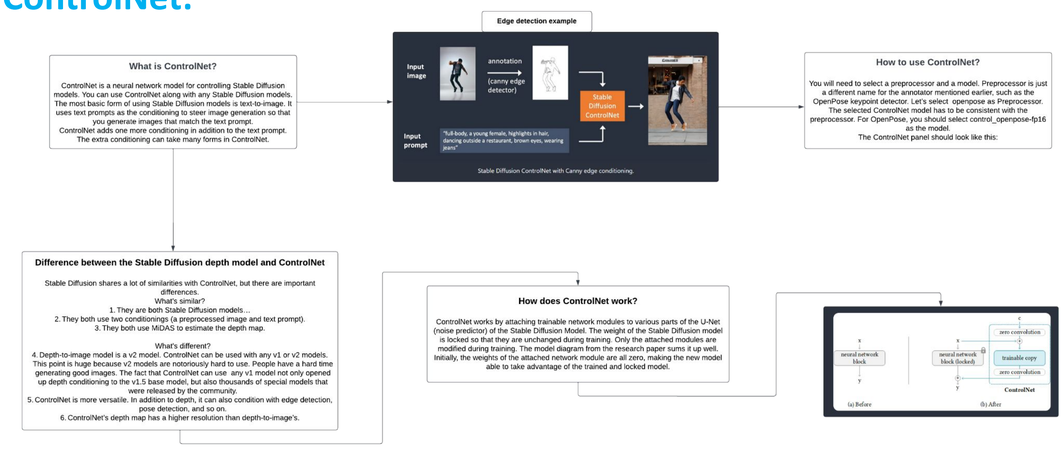


DreamBooth:

Stable Diffusion:



ControlNet:



Conclusion:

In the figure below, our team has successfully integrated a trained Stable Diffusion checkpoint with the Control-Net Algorithm, and we demonstrate that utilizing Dream Booth + Stable Diffusion + Control-Net is indeed capable of producing hypothetical consumer images from scratch.

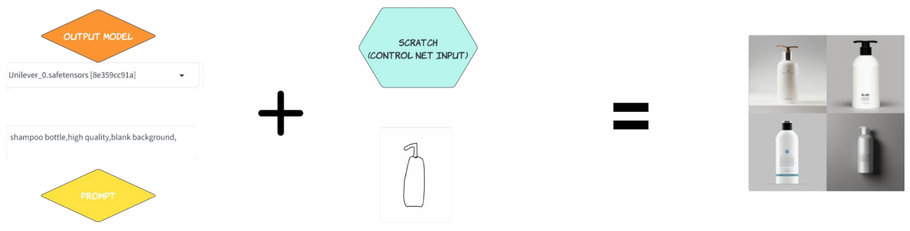


Figure 1. Sample Generation from Trained SD model

Acknowledgments:

References:

Andrew. (2023, December 5). ControlNet v1.1: A complete guide. Stable Diffusion Art.

Google. (n.d.). Fine tuning text-to-image diffusion models for subject-driven generation. DreamBooth. https://dreambooth.github.io/

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