

# Investigating Diffusion Models for Generative AI

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**Abstract** Diffusion models for generative AI are remarkably effective at generating new, synthetic outputs that plausibly imitate their training data. These models are trained to remove noise from corrupted data. A trained model will then produce novel outputs when presented with samples of pure noise. I will describe how the concept of intrinsic dimension can be used to unravel some of the mysteries behind diffusion models.