

Emergin Technology
Seminar 2

► **IMG006**

Generating Images with Little Data Using S3GAN



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01

► Test Cases

► Case 1

Default parameters from Google

Parameters	Value
num_samples	64
num_rows	2
num_cols	3
noise_seed	23
label_str	"980) volcano"

► Case 2

Change the number of samples and display method

Parameters	Value
num_samples	128
num_rows	4
num_cols	4
noise_seed	42
label_str	"1) goldfish, Carassius auratus"

► Case 3

Using different labels

Parameters	Value
num_samples	64
num_rows	2
num_cols	3
noise_seed	23
label_str	[980, 1, 57] ("volcano", "goldfish", "dog")



02

► Result Comparison

► Result Comparison

Scenario	Parameters changed	Number of samples	Comment
1	Default	64	Stable images with correct labels
2	Increased number of samples and sizes	128	Diverse photo with good quality
3	Mutiple layers used	64	Correct photos with labels

► Quality Difference

Scenario 1: High quality with little noise

Scenario 2: Slight image quality decrease but structure remains intact

Scenario 3: Varying image quality

► Diversity

Scenario 1: The generated image is representative in general

Scenario 2: High diversity but limited when using only **1** label

Scenario 3: Generated images clearly differ based on their labels

► Image Generation Accuracy

Scenario 1:

- Doesn't check the ability to generate images by label, because the label doesn't change.
- Suitable for overall quality control.

Scenario 2: If generated from only one label, all images will be similar in content.

Scenario 3:

- The model generates the correct image according to the required label.
- Some complex labels can reduce accuracy, especially with ambiguous or poorly detailed objects.



03

► Conclusion



Quality and variety.

Scenarios 1 and 3 produce the best quality and correctly labeled images

Generate image according to label

Scenario 3 clearly demonstrates the capabilities of the model, especially when generating images with multiple layers



THANK
YOU