# Title <br> Subtitle 

## Author

Università degli studi di Siena
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## Overview

(1) Section

- Subsection
(2) Another section
- Subsection with math
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- Subsection with table
- Subsection with minipages

Overview
(1) Section

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3 Section without frame

## Section

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## Subsection

- Justified text item with reference Goodfellow et al. (2014)
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Figure 1: GAN structure

## Overview

## 1 Section

(2) Another section

- Subsection with math


## Another section

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## Subsection with math

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- Example formula:

$$
d^{2}=\left\|\mu_{1}-\mu_{2}\right\|^{2}+\operatorname{Tr}\left(C_{1}+C_{2}-2 \sqrt{C_{1} * C_{2}}\right)
$$

## Overview

(3) Section without frame

- Subsection with table
- Subsection with minipages


## Subsection with table

Table 1: default

| Dataset | No. Classes | Image Size | No.Images $S_{t}$ | No.Images $S_{v}$ |
| :---: | :---: | :---: | :---: | :---: |
| MNIST | 10 | $28 \times 28$ | 60 k | 10 k |
| CIFAR10 | 10 | $32 \times 32$ | 50 k | 10 k |
| CIFAR100 | 100 | $32 \times 32$ | 50 k | 10 k |
| ImageNet1k | 1000 | $64 \times 64 / 128 \times 128$ | 1.3 M | 50 k |

## Subsection with minipages

|  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| model | IS | FID-5K | FID | GAN- <br> train | GAN- <br> test | SWD 16 | SWD 32


| model | IS | FID-5K | FID | GAN- <br> train | GAN- <br> test |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| real images |  |  |  | 16 | SWD 32 |  |  |
| SNGAN | 14.9 | 10.8 | 2.4 | 69.4 | - | 2.7 | 2.0 |
| WGAN-GP (10M) | 9.30 | 23.8 | 15.6 | 45.0 | 59.4 | 4.0 | 15.6 |
| WGAN-GP (2.5M) | 9.10 | 23.5 | 15.6 | 26.7 | 40.4 | 6.0 | 9.1 |
| DCGAN | 6.22 | 28.8 | 20.6 | 5.4 | 4.3 | 3.7 | 7.7 |
| PixelCNN++ | 6.27 | 49.7 | 41.8 | 3.5 | 2.4 | 9.9 | 20.8 |
|  | 143.4 | 141.9 | 4.8 | 27.5 | 8.5 | 25.9 |  |

Figure 2: Results on CIFAR10
Figure 3: Results on CIFAR100

| res | model | IS | FID-5K | FID | GANtrain top-1 | $\begin{array}{r} \text { GAN- } \\ \text { train } \\ \text { top-5 } \end{array}$ | GANtest top-1 | GANtest top-5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 64px | real images | 63.8 | 15.6 | 2.9 | 55.0 | 78.8 | - | - |
|  | SNGAN | 12.3 | 44.5 | 34.4 | 3 | 8.4 | 12.9 | 28.9 |
|  | WGAN-GP | 11.3 | 46.7 | 35.8 | 0.1 | 0.7 | 0.1 | 0.5 |
| 128px | real images | 203.2 | 17.4 | 3.0 | 59.1 | 81.9 | - | - |
|  | SNGAN* | 35.3 | 44.9 | 33.2 | 9.3 | 21.9 | 39.5 | 63.4 |
|  | WGAN-GP | 11.6 | 91.6 | 79.5 | 0.1 | 0.5 | 0.1 | 0.5 |

Figure 4: Results on ImageNet 1k

## References

Ian Goodfellow, Jean Pouget-Abadie, Mehdi Mirza, Bing Xu, David Warde-Farley, Sherjil Ozair, Aaron Courville, and Yoshua Bengio. Generative adversarial nets. Advances in neural information processing systems, 27, 2014.

