

# ML HW6 Report

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## 1. Describe the difference between WGAN and GAN, list at least two differences.

- (1) WGAN-GP replaces weight clipping with a constraint on the gradient norm of the critic to enforce Lipschitz continuity, allowing for more stable training of the network than WGAN.
- (2) For WGAN, we use the RMSProp optimizer, while for WGAN-GP, we switch back to Adam optimizer to reach better performance.

## 2. Please plot the "Gradient norm" result.

Below shows 1-4 discriminator layers versus gradient norm. (epoch = 2)

We can observe that the gradient norm is more smooth with gradient penalty.

