

UNSUPERVISED CIPHER CRACKING USING DISCRETE GANS

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1. The ciphers

1.1 Caesar Shift

PLAIN: a b c d e f g h i j k l m n o p q r s t u v w x y z

3-SHIFTED: d e f g h i j k l m n o p q r s t u v w x y z a b c

Example: hello world → khoor zruog

1.2 Vigenère

Efficient computation during training

- Causal LM inference is fast

Best methods from comparative study

- We don't have time for them all
- Some are more inference focused

Summary

- We care about efficiency during training
- Inference for long cipher struggle due to lack of generalization on long ciphers