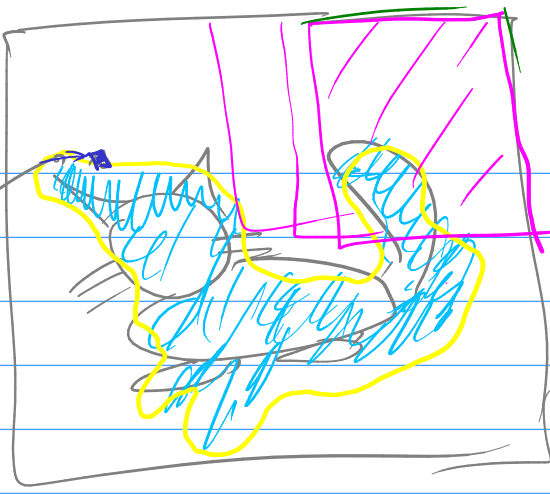


cross-entropy



$$IoU = \frac{|A \cap B|}{|A \cup B|}$$

mIoU

convolutionalization

Augmentation

(x, y)



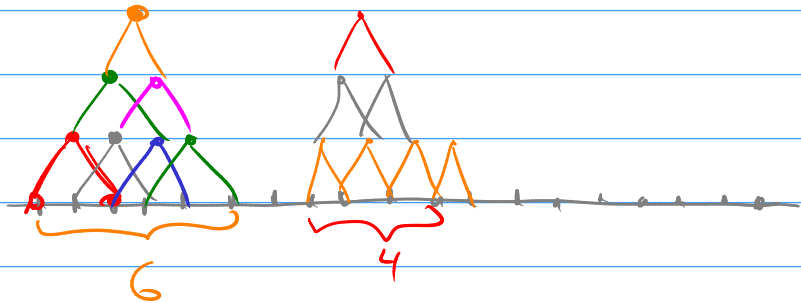
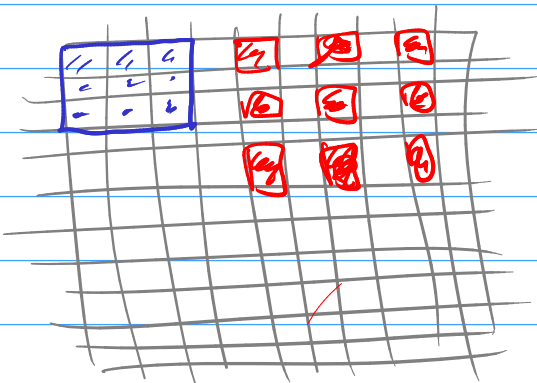
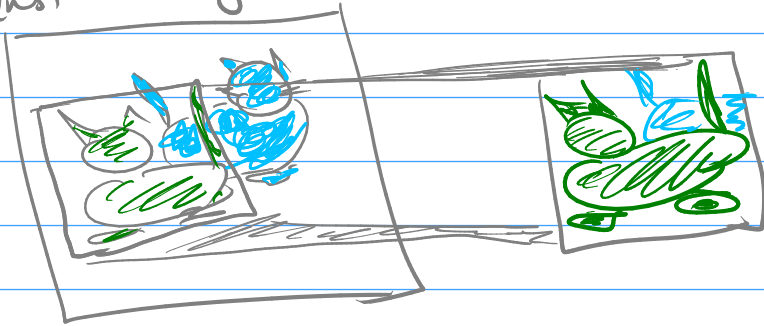
cat

$(f(x), g(y))$



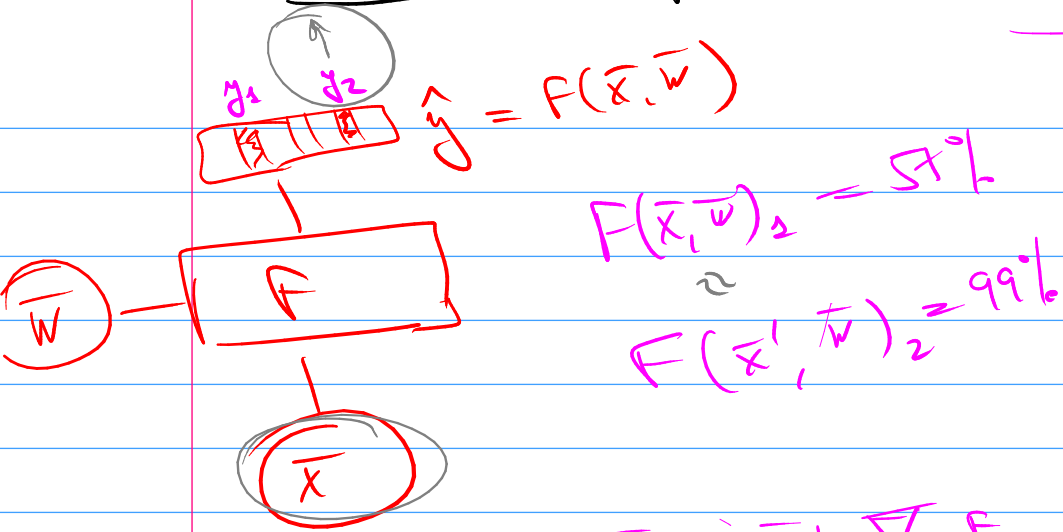
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instance seg



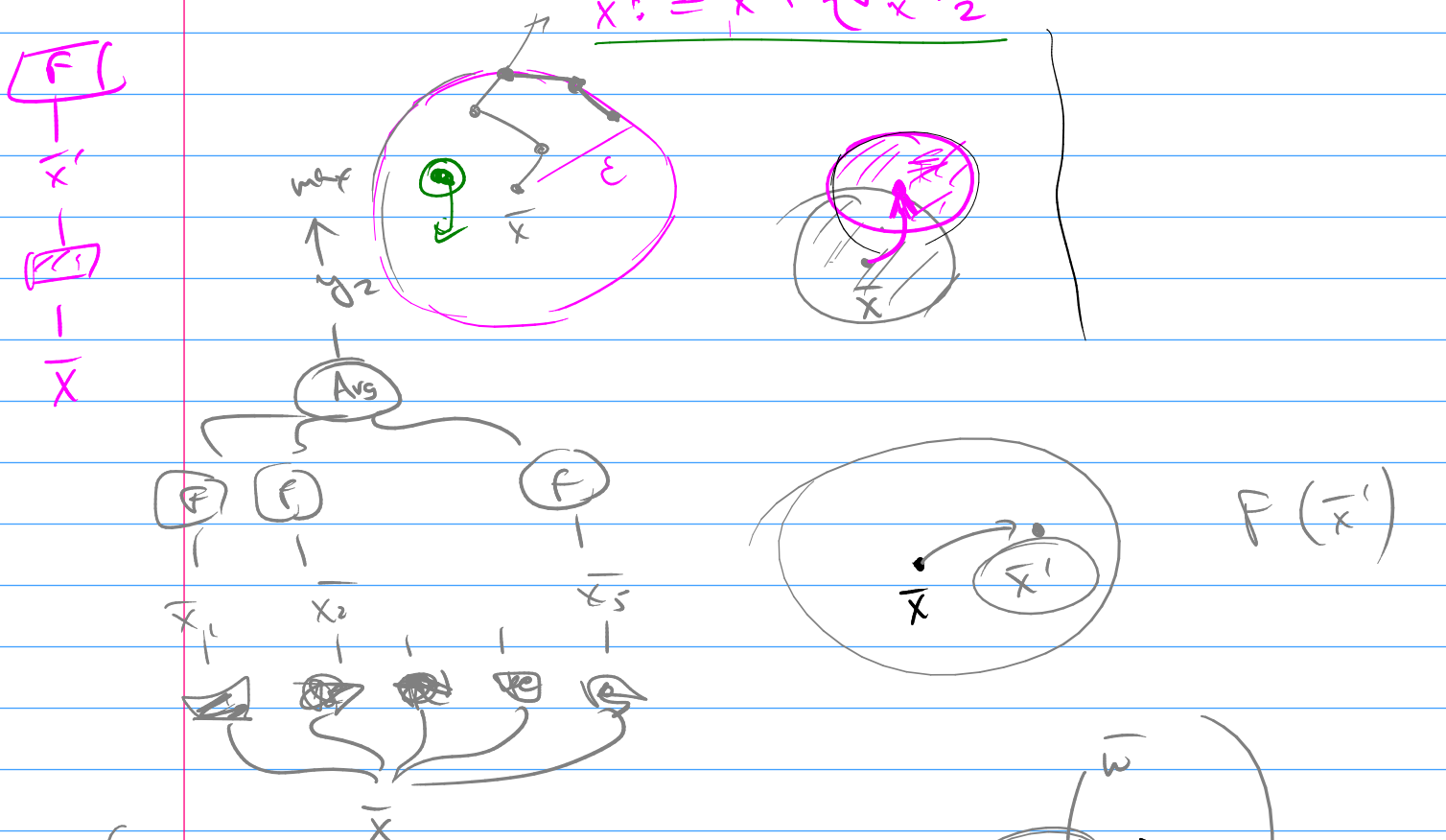
Adversarial examples

$$\bar{w} := \bar{w} + \eta \cdot \nabla_{\bar{w}} F$$



$$\bar{x}' \rightarrow \bar{x} + \epsilon \nabla_{\bar{x}} F_2$$

$$\bar{x}' := \bar{x} + \eta \nabla_{\bar{x}} F_2$$



$$\nabla_{\bar{w}} \left(L(y, F(\bar{x})) + \lambda \cdot L(y, F(\bar{x} - \epsilon \nabla_{\bar{x}} F(\bar{x})_i)) \right)$$

- white-box attacks $F(\bar{x}, \bar{w})$
- grey-box attacks $F(\bar{x}, ?)$
- black-box attacks $?(\bar{x}, ?)$

Self-addressed training:

(\bar{x}, y)

$$\bar{x} \mapsto \bar{x} - \epsilon \nabla_{\bar{x}} F(\bar{x}, \bar{w})_y$$