

## ② MultiSiam

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### MutliSiam

Preliminary: BYOL:

$x \rightarrow \text{image}$

$v \sim \mathcal{P}(v)$

$v' \sim \mathcal{P}'(v)$

Online Net: Backbone with GPR, MLP projection, MLP predictor

Target Net: similar to Online  
But No MLP predictor.

BYOL  $\rightarrow$  stop gradient prevents collapse. (on target net)

$$L_{\text{ID-ing}} \triangleq -\cos(q, z') = \frac{\langle q, z' \rangle}{\|q\|_2 \|z'\|_2}$$

BYOL target parameters update

$$\xi \leftarrow \tau \xi + (1 - \tau) \theta$$

$$\tau \in [0, 1]$$

Positive Samples in multi-instance Data: