

Standard TD

$$\delta_t = r_t + V_{TD}(s_{t+1}) - V_{TD}(s_t)$$
$$V_{TD}(s) \leftarrow V_{TD}(s) + \alpha_{TD} \delta_t$$

Update target Prediction

Dual Process

$$V_{NET}(s_{t+1}) = k V_{TD}(s_t) + (1 - k) V_{MB}(s_{t+1})$$
$$\delta_t = r_{t+1} + V_{NET}(s_{t+1}) - V_{TD}(s_t)$$
$$V_{TD}(s) \leftarrow V_{TD}(s) + \alpha_{TD} \delta_t$$

Update target Prediction