

# LSPI

## 1 Bellman Residual Minimizing Approximation

If we start from the Bellman equation, and say that

## 2 Least-Squares Fixed-Point Approximation Recall

State-value function  $Q^\pi$  is a fixed point of the Bellman operator.

$$T_\pi Q^\pi = Q^\pi$$

Then we need to force the approximation to be a fixed point of the Bellman operator.

$$T_\pi \hat{Q}^\pi = \hat{Q}^\pi$$