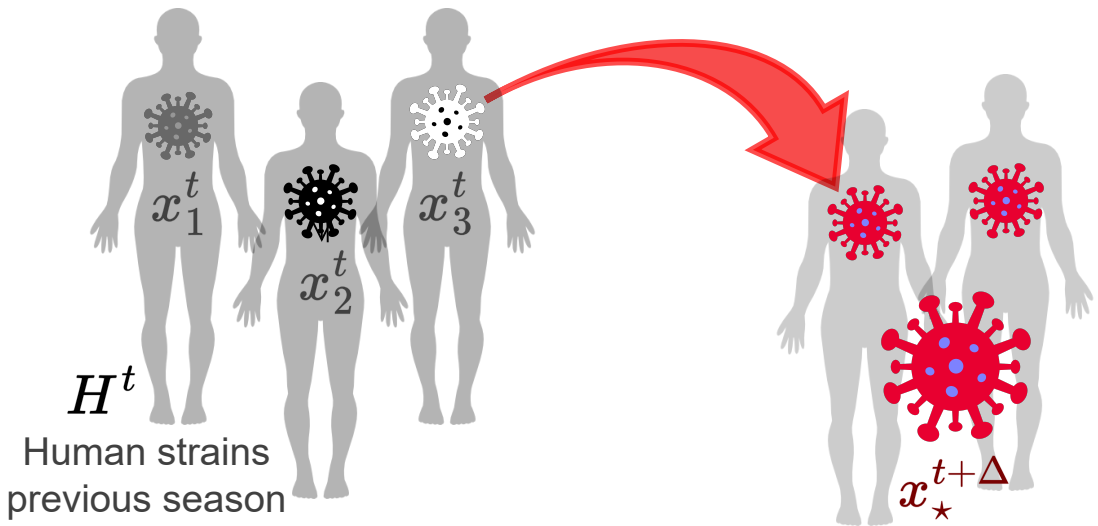
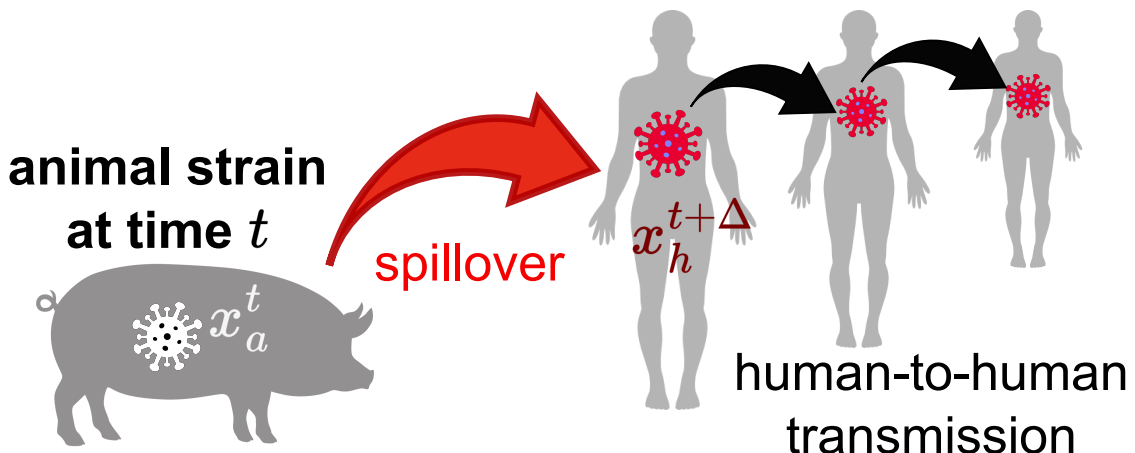


Application 1:
Forecast dominant strain(s) in upcoming season



$$x_{*}^{t+\Delta} = \underset{x}{argmax} \prod_{x^t \in H^t} Pr(x^t \rightarrow x)$$

Application 2:
Estimate pandemic potential of animal strains



$$\text{risk}(x_a^t) = \log Pr(x_a^t \rightarrow x_h^{t+\Delta})$$