4 formulas

state representation

$$s_t = \begin{pmatrix} \frac{\ddot{y}_{t,agent}}{a_{y,max}} \\ \frac{\dot{y}_{t,agent}}{v_{y,max}} \\ \frac{\dot{x}_{t,agent} - \dot{x}_{t,i}}{v_{x,max}} \\ \frac{\dot{y}_{t,agent} - \dot{y}_{t,i}}{v_{y,max}} \\ \frac{x_{t,agent} - x_{t,i}}{x_{scale}} \\ \frac{y_{t,agent} - y_{t,i}}{y_{scale}} \end{pmatrix} = \begin{pmatrix} \text{y} - \text{acceleration agent} \\ \text{y} - \text{speed agend} \\ \text{x} - \text{speed difference agent} - \text{obstacle} \\ \text{y} - \text{speed difference agent} - \text{obstacle} \\ \text{x} - \text{distance agent} - \text{obstacle} \\ \text{y} - \text{distance agent} - \text{obstacle} \end{pmatrix} \tag{1}$$

agent's action

$$\ddot{y}_{t+1,agent} = \ddot{y}_{t,agent} + \Delta a_{y,max} \cdot a_t \tag{2}$$

feature importance

$$I\left(x_S\right) = \sqrt{\frac{1}{K-1} \sum_{k=1}^{K} \left(\hat{f}_S\left(x_S^{(k)}\right) - \frac{1}{K} \sum_{k=1}^{K} \hat{f}_S\left(x_S^{(k)}\right) \right)^2} \tag{3}$$