

FCAI

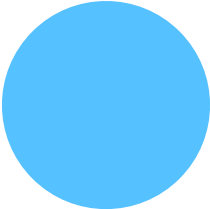
fcai.fi

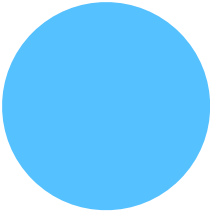
Shooting Methods

Illustration









So

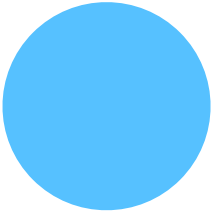
a_0



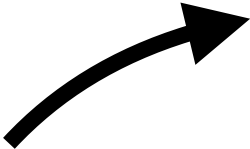
a_3

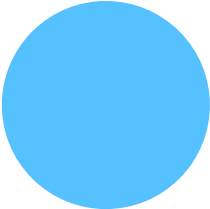


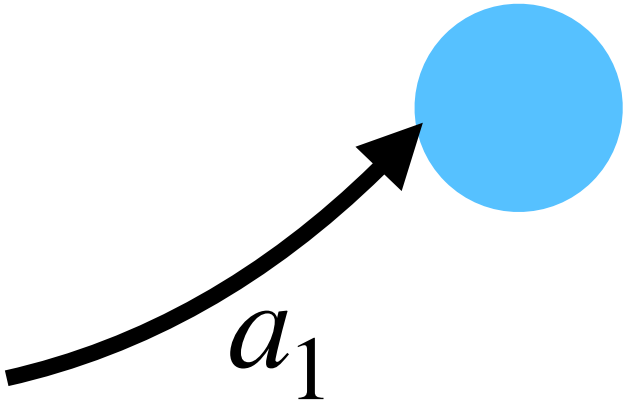


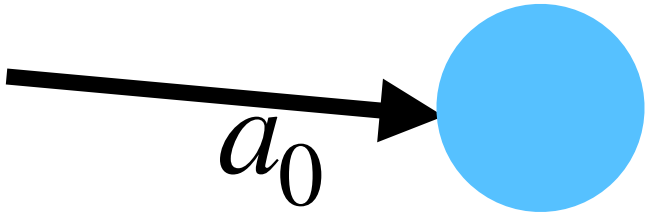


a_2

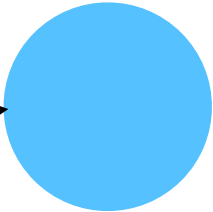




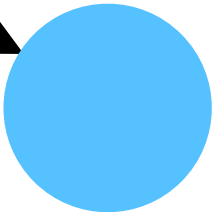


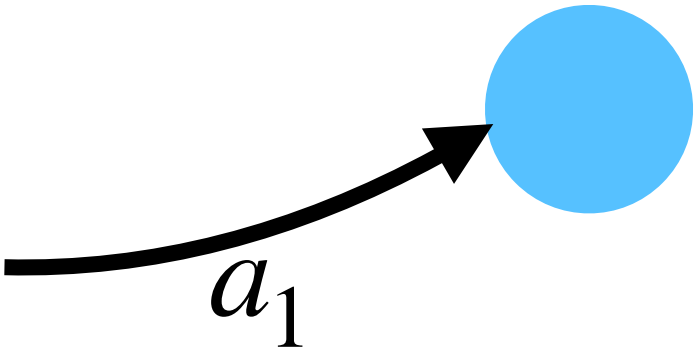


a_2

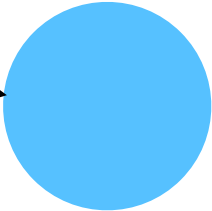


a_3

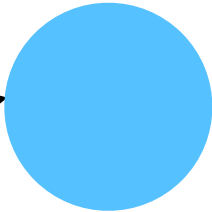




a_2



a_3



$$J(a_{0:H})=\gamma^0r(s_0,a_0)+\gamma^1r(f(s_0,a_0),a_1)+\dots+\gamma^Hr(f(f(\dots),a_{H-1}),a_H)$$



Optimising actions

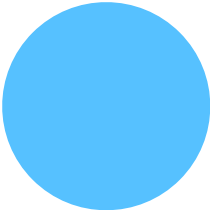


Recursively evaluate dynamics

Gradient based approaches are fast

But local minima

And vanishing/exploding gradients



Shooting Methods

Illustration

Gradient based approaches are fast

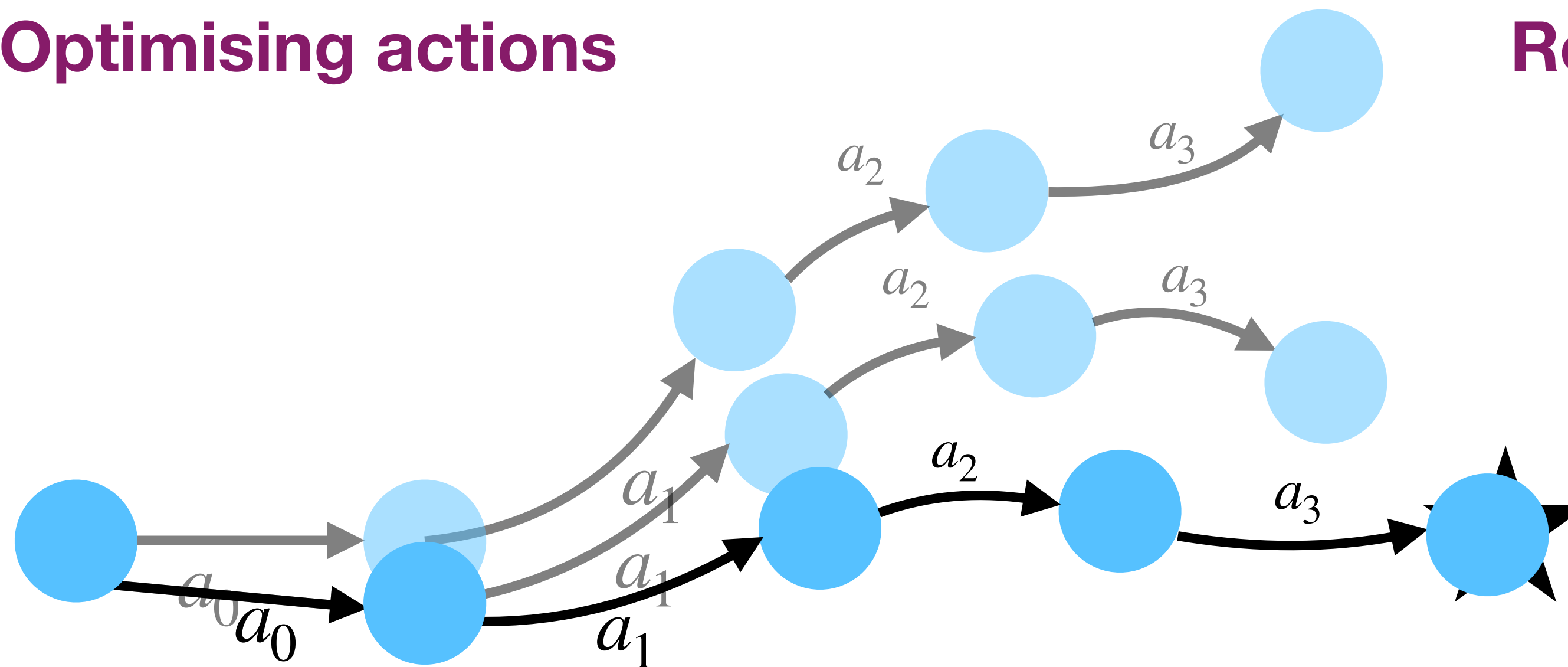
But local minima

And vanishing/exploding gradients

$$J(a_{0:H}) = \gamma^0 r(s_0, a_0) + \gamma^1 r(f(s_0, a_0), a_1) + \dots + \gamma^H r(f(f(\dots), a_{H-1}), a_H)$$

Optimising actions

Recursively evaluate dynamics



Shooting Methods

Random shooting

