

# Second-order Predictor-Corrector

$$\frac{d^2 \vec{x}}{dt^2} = \vec{a}(\vec{x})$$

$$x_{i+1} = x_i + v_i \delta t + \frac{1}{2} a_i \delta t^2$$

$$v_{i+1} = v_i + \frac{1}{2} (a_i + a_{i+1}) \delta t$$

$$t_{i+1} = t_i + \delta t$$