

Vicsek Model - 2D

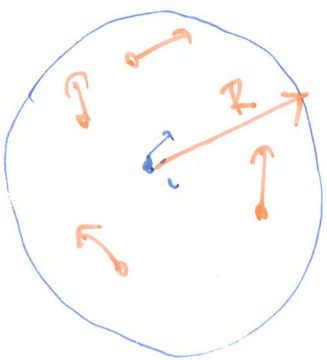
dist. travelled update step
noisy average of nbhrs

new position

$$x_i(t+1) = x_i(t) + v_0 \cos(\theta_i(t+1))$$

old position

$\theta_i(t+1)$ = average angle of particles within radius R from particle i .



$$+ \eta \cdot \text{rand}[0, 2\pi]$$

error parameter $\epsilon \in [0, \eta]$
no randomness
noise