Start
Infrared-based binocular stereo vision system
Kinematic and dynamic models of shuttlecock
UKF filter
Vx
Vy
Vz
X-direction RBF neural network
Z-direction RBF neural network
Y-direction RBF neural network
Δx
Δz
Δy
Predict and store the X location of next point
Predict and store the height of next point
Predict and store the Y location of next point
ΔT
ΔT
N
N
N
Time to ΔT?
Reach the fall point or preset height?
Time to ΔT?
Y
Y
Y
Total trajectory of shuttlecock
Over