
Algorithm 1: RAnt behavioral algorithm

Result: Cooperative escape in Robot Ants

$d = 1$;

$C \in [0, 1]$;

$c^* = 0.5 \times c_{\max} \times C$;

while *true* **do**

 set heading;

if *object detected* & $d = 1$ **then**

if $c > c^*$ **then**

 engage magnet with probability E ;

 fetch object;

$d = -1$;

else

 turn away from object;

end

end

if *no object detected* **then**

$d = 1$;

 disengage magnet;

end

if $d = -1$ and $P < kC$ **then**

 disengage magnet;

 turn away from object;

$d = 1$;

end

end
