**Speed**

d – distance traveled

t – time elapsed

– position at timestamp i

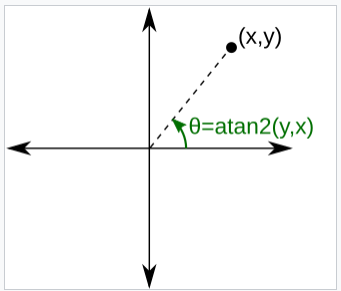
**Acceleration**

s – speed

t – time elapsed

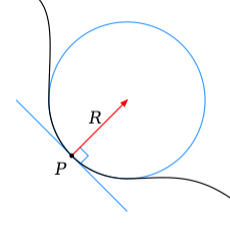
**Turning Angle**

arctan2 = “angle in the [Euclidean plane](https://en.wikipedia.org/wiki/Euclidean_plane), given in [radians](https://en.wikipedia.org/wiki/Radian), between the positive x axis and the [ray](https://en.wikipedia.org/wiki/Ray_(geometry)) to the point (x, y)”



**Curvature**

Intuition:



**Centered Distance**

p – position

c – center of the trajectory

**Pass by**

* counter for each region

– counter of region i

p – position

r – region

**Normalized Size of Bounding Box**

w –width of the bounding box

h – height of the bounding box