Controller

Environment

u = GetU(I_bar_d, I_bar)

Environment

-Controller -CameraParam -Features -CirObs

SetController(Controller)
SetCirObs(X1_cir_obs)
I1_f = World2ImgCord(X1_cam, X1_f)
I1_cir_obs = GetCirObsInImg(X1_cam, X1_cir_obs)
X1_cam = Img2World(I_f)
Animate(t,X)
Plot(t,X)

X_bar_dot = Dynamics(t,X_bar)
I_bar_dot = ImgDynamics(t,I_bar)
J1,J1_dot = GetJ1(X_cam, X1_f)
f,g = Getfg(I)
X_bar_cam = GetXBarCam(X_bar_f)
X_bar_d = TrajGen(t)

Acronyms

cir_obs = circular obstacle
f = feature
cam = camera

Notations

X1 = (x,y,z) cord of 1 pnt
X = (x1,y1,z1,..,xn,yn,zn) cord of n pnts
X1_bar = (x,y,z,x_dot,y_dot,z_dot)
X_bar = (x1,y1,..,yn_dot,zn_dot)
X1_cir_obs = (x1,y1,z1,r1)
I1 = (u,v) cord in image space
I1_cir_obs = (u1, v1, r1)
J1 : X1 -> I1
J1_dot : X1_dot -> I1_dot
J : X -> I
J_dot : X_dot -> I_dot